A Lecture
ON THE
STUDY OF HUMAN PHYSIOLOGY.

Delivered in the Medical School of St. Bartholomew's Hospital,

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(*Concluded from page* 3.)

BUT you anxiously inquire, Is, then, a knowledge of comparative anatomy necessary? No, not in detail on your part. That work has been or is being done for you. It is one thing to seek for evidence; it is another thing, a widely different thing, to understand and apply it when presented to you. It is one thing to labour; it is another thing to appreciate the work. Comparative anatomy supplies the evidence; we have only to understand and apply it. This will not add to your studies, but, on the contrary, will considerably lighten them. Without the labour of obtaining it, you at once apply to the solution of a difficult question evidence in its nature conclusive, and against which there can be no appeal. Now if I could I would so stamp this truth upon your minds that it shall be impressed as deeply as its vast importance demands. Perhaps an example will assist in this.

The eye and the ear in man and the more complex animals are very elaborate and complicated organs. They consist of many and various structures, each adapted to a distinct and different purpose, but all ministering to a common end—the perfection of the sense of sight or hearing. Now the study of the comparative anatomy of the eye and ear reveals the relation in which these several parts stand to each other, and consequently to a great extent their uses. It shows which structures are essential to sight and hearing—to the perception of light and sound—those which are everywhere present under every modification of form and arrangement, and those which may be regarded as accessory to these—those which gradually appear as the organs become more elaborate and their functions complete. And, moreover, it points out the almost endless modifications to which these latter parts more especially are subjected in relation to the various conditions under which different animals exist; such as the medium they inhabit. No one needs to be told that such revelations as these are pregnant with interest and instruction.

Now it requires a long time to become fully acquainted with all the facts leading to these conclusions, but you can grasp the evidence at once.

Similar remarks will apply to the study of chemistry, so far as physiology is concerned. Observe, if you please, that I venture only to speak of chemistry in its application to physiology. You will, of course, require chemistry for other purposes, and you will learn it for them. But the physiologist stands in a similar relation to the chemist as to the anatomist. They supply him with facts which he gratefully acknowledges and duly appropriates. And, indeed, to the chemist he owes much. This can scarcely need illustration.

Without the aid of chemistry, what could be known of the most important functions of the body? Of digestion, respiration, &c., we should have no knowledge deserving the name. We should know little or nothing of the blood, bile, or urine. But this needs no further comment.

The organic chemistry of the present day is indeed rich in triumphs, and physiology especially should gratefully acknowledge the patient labour and acquired skill by which such triumphs have been won.

So again with botany, and so with physics. Of course the preceding remarks do not apply to original research in physiology. He who would pioneer must leave well-trodden paths. I am speaking now of what we have to do—of learning physiology as it is known. So we have to learn the principles of those sciences upon which physiology is based. We may long for more knowledge of each and all of them, but time forbids. While we reap the harvest and enjoy the fruit, let us not forget the labours of those who have ploughed the ground and sown the seed.

You will see, then, that to anatomy in its largest and highest sense, and to chemistry, we are indebted beyond all calculation. Something would still have been known, even had we groped along without the light which these unfailing sources have supplied; but much, infinitely much more of what is known could never have been learnt without their aid.

In the common and comprehensive term Anatomy I include, of course, that form of it which is especially and most closely related to physiology—which is indeed sometimes, but not correctly, included in the title Physiology. I mean that anatomy which we shall have particularly to consider—General Anatomy; or sometimes called, from the principal means employed in its investigation, Microscopic or Minute Anatomy, or by the more modern term Histology. It may seem almost childish to illustrate the value of general anatomy to physiology, for physiology is to a great extent based upon it. But take, amongst a host, such examples as these:—

The peculiar power of contraction which the skin possesses, and which it so often exhibits, could not be explained until the presence of muscular fibres in connexion with it was detected by the microscope; and not their presence only, but more recently their position and arrangement, especially in their relation to hairs, by which the erection of these "cutaneous appendages," as when the "hair stands on end," is simply and satisfactorily explained.

Again, we are indebted to the revelations of the microscope, in the hands of a most skilful observer, not only for what we know of the structure of muscle (in truth, without the microscope what should we know of any structure?), but also for the knowledge we possess of the nature of muscular action, and of the interesting and important changes which the fibres undergo during the contraction of a muscle.

And this instance reminds me of an admirable illustration of the value of comparative research. In the transparent polyzoa some of the muscles are remarkably separate and distinct, and, as was long since pointed out, when a fibre contracts it becomes thickened, especially in its middle part; when the action ceases and the fibre is relaxed, it falls into undulations. The thickening of the muscular fibre in the act of contraction, and its folded state when it relaxes, before antagonizing muscles have restored the extremities to their ordinary distance, have been observed in other simple animals. The more highly organized subjects selected by Prevost and Dumas were less favourable for the observation, and they consequently mistook the zigzag relaxation of the fibre for its act of contraction.

Yet do not fall into the opposite error of calling anatomy physiology, for physiology is far beyond this. With a complete knowledge of anatomy, one may yet be ignorant of the simplest facts in physiology. "Meckel dissected the fifth pair of nerves, discovered its ganglia, and described its anastomoses without suspecting its functions." General anatomy is the analysis of structure, as chemistry is of composition.

But there are other sources of evidence which I must not now omit to notice—other methods of investigation—other means by which the study of physiology is advanced, and which therefore we should understand.

First, then, there is the evidence which is at once the simplest and the most direct, and to some minds the most satisfactory and conclusive—that which is derived from observation and experiment upon man himself. Indeed, the general anatomy of which we have just spoken, so far as it is confined to the human subject, might claim to be included here. However, general or structural anatomy is more extended and comprehensive than this. Indeed its richest results have been derived from comparative research.

From simple and direct observation we ascertain, for example, the temperature of the external and of some of the internal parts of the body; the relative sensibility of different portions of the surface. Again, the more obvious phenomena connected with the coagulation of the blood are thus ascertained.

Among examples of deeper investigation of this kind, assisted and extended by varying the conditions of observation—in other words, by experiment—may be mentioned: the study of the effects of different kinds of diet upon the system; of the changes which the several alimentary substances undergo, and the purposes they fulfil; and of the part which the different fluids that are poured into the alimentary canal take in the digestion of the various kinds of food.

Conditions for observation and experiment are sometimes

curiously prepared for us. As, for example, in those cases in which, as the result either of injury or disease, gastric or intestinal fistulæ have been established. The most celebrated of these cases is that of Alexis St. Martin, in whose stomach an aperture, the result of a gunshot wound, remained permanent. This man, who was the subject of a remarkable series of experiments by Dr. Beaumont at various intervals from 1825 to 1832, and on whom some additional observations have been recently made, is, I believe, still living. From this and other less notorious cases, physiologists have taken the hint, and established permanent fistulæ in the stomach, intestinal canal, and other parts of animals.

These and other such from external observation—objectively; while from ourselves, from within—subjectively, we also learn much which, indeed, otherwise we could not apprehend. The most practical—to ourselves the most useful—portion of our knowledge concerning that most mysterious of all subjects—the physiology of the mind, is thus learnt. The true relation of the will, for instance, to the operations of the intellect, on the one hand, and to the emotions and passions, on the other, can only be clearly and satisfactorily understood by observing how it works and acts in ourselves. This fundamental knowledge gained, we can strengthen and extend it by external observation.

The next source of evidence of which I must speak, is a most important one—a strangely-fascinating, and yet too often a most repulsive, one. I mean experiments upon the lower animals. This source of evidence has been at all times largely drawn upon; sometimes, I fear we must admit, shamefully abused. There can be no doubt that physiology is vastly indebted to this means of investigation for some of its most brilliant results—it would betray utter ignorance of the subject to assert the contrary—results, however, which, in some instances, might perhaps have been otherwise, although more slowly, yet as surely, arrived at. The fruits of this method of investigation are disproportionate to its relative value, because it has been far more extensively tasked than any other. The reason of this is obvious. Experiments yield direct and immediate results; and this method of research requires less knowledge, labour, and patience than some others, and is more readily, and, in many respects, conveniently carried on.

I say this source of evidence has been more abused than any other; and in this statement I do not refer so much to their wanton repetition or their futility, either from want of knowledge or design of the perpetrator, as from undue estimate of the value of the results obtained from them.

You will see at once that the value of this kind of evidence rests wholly upon that on which we have previously insisted—the relation of animals in their structure and functions to each other and to man. We virtually assume this, of course, whenever we appeal to them either for observation or for experiment. But here a most important question arises. Animals, of course, though related to man in kind, yet differ from him in degree. Then, to what extent do they differ? How closely are they related? How far can conclusions drawn from experiments on animals become applicable to man? This is a delicate question to answer, and one which is too often lost sight of altogether. If I had to give a concise answer to the inquiry, I should say as above—that the difference was one of degree merely, not of kind. I will endeavour to render this intelligible.

If we compare the arteries of those animals with whose structures we are most familiar—as, for example, those of the dog—with the arteries of man, we find that in structure and properties they are essentially alike, but that they differ in the degree to which some of these properties are manifested. A man is more likely than a dog to die of hæmorrhage when an artery is divided. In the two cases division of an artery is followed by the same changes—changes due to the structure and connexions of the vessel, and which tend to arrest the flow of blood. But these changes proceed to a greater extent in the dog than in the man. In the animal the contraction of the artery is more complete.

Now these differences may be, in most cases, readily allowed for. They are not difficult to appreciate, and by no means present insurmountable obstacles in the determination of the result. As a general rule, the results of experiments are valuable in a direct ratio to the closeness of the analogy of the subjects of them to man. For instance, we are reasonably assured that the capillary circulation in the wing of a bat more closely resembles that in the human subject than the capillary circulation in the foot of a frog.

Much, very much, however, depends upon the nature of the experiment itself, and here comes in the important question of kind and degree. Thus conclusions drawn from experiments upon the muscles of the higher animals—as those with electricity—may fairly be applied to the human subject; seeing that in their anatomy and physiology these structures bear the closest resemblance in the two cases. On the contrary, conclusions drawn from experiments upon the various fluids poured into the alimentary canal—upon gastric juice, bile, saliva, pancreatic juice, whether concerning their quantity or quality, —in animals, must be applied with the utmost caution to man, for of course much must depend on the nature of the food and other circumstances associated with it. You cannot assume common conditions for carnivorous, herbivorous, and omnivorous creatures.

Of course, I am speaking now of what are called the higher animals. As we descend, the relationship widens. The affinity becomes less obvious, till at length, to superficial observation, no trace of it remains. Yet to the last it exists: never wholly annulled, however weakened and obscured.

Too often experiments are only coarse and clumsy caricatures of nature. Many experiments are merely very rough and imperfect attempts to produce, artificially, conditions which are already naturally, and hence most perfectly, prepared. I allude here more particularly to such experiments as many of those which have been performed upon the nerve-centres; the brain, for example. It has been oftentimes attempted to determine the functions of different portions of this Gordian knot of physiology in a right royal fashion—by cutting it through, and then endeavouring to settle the question by observing the consequences. But who that knows anything of the anatomy of this organ, or of physiology in general, would be inclined to pin his faith to such result? Imagine the disturbance produced by such operation, especially upon the functions of the organ in question, even when most skilfully performed! And here I am bound to say that some physiologists, from natural dexterity and much practice, do manage many of these experiments—delicate and intricate ones—with an amount of skill and ingenuity that would be scarcely deemed possible by anyone who had not witnessed them. Yet, in spite of this, I contend that in many cases the result is negatived by the operation itself; whereas no fatal error of this kind can arise from careful observation of the faculties and habits of animals in comparison with the development of their brains. To trace the evolution of particular faculties *pari passu* with different portions of this organ is unquestionably surer, safer, and in every respect more philosophical. Hence it has been happily expressed, that in the various structures and functions of the lower animals we have, to our use already, experiments prepared for us by the hand of Nature. And surely it is more reasonable, and becomes us better, to seek information from her voluntary replies—and she is never silent when earnestly questioned—than to attempt by violence to wring them from her. The evidence of confession evoked by torture has always been most justly regarded as equivocal.

But do not understand me to urge these objections against all experiments. I cannot confess to any sympathy with those who express unmitigated disgust at what are called vivisections. Such prejudices are founded upon shallow arguments, and afford no evidence of a rightly constituted mind. Pain and torture by no means form a necessary part of all vivisections. In fact there are but very few experiments, and those only of a certain kind, which cannot, with great advantage, be performed under chloroform. And this application of chloroform is in no sense amongst the meanest of its uses. While it entirely removes all objection to vivisection, it renders the performance of many experiments, otherwise impracticable, easy and satisfactory. The heart, for instance, may be exposed in a living warm-blooded animal under chloroform, and its movements may be watched, and submitted to experiment. Here not only is the objection to vivisection, on the score of the animal's suffering or consciousness, completely set aside, but our observations are not embarrassed, or their value lessened, by its struggles or distress. In a word, the employment of chloroform meets every reasonable argument which can be urged against vivisection.

Then there is pathology, another kind of experiment: the evidence furnished by the observation of disease. "The wrong action of a part," says Hunter, "often points out what the natural action was." "Disease often corrects our imagination and opinions, and shows us that such and such parts cannot have the uses commonly attributed to them, and therefore brings us a step towards the knowledge of the true use." Physiology may fairly look to this source for some assistance, for it owes much, and pathology has made some gracious returns. Under this head, congenital deficiencies and malformations are

to be included. I may particularly mention in illustration, the nervous system, the physiology of which has been considerably elucidated by pathological observations.

Last, but not least, comes the great subject of Development. To trace the origin and watch the formation of the various tissues and organs, to follow them onwards from their earliest and simplest to their most advanced and complex state, and hence from their perfection through their decline to their dissolution—in short, to observe the changes they are destined to undergo—is a study at once most difficult and most important. It is impossible to exaggerate the value of the evidence which this philosophical method of inquiry yields.

In the nature of its evidence it is closely related to comparative anatomy; and the facts obtained from each confirm and corroborate those derived from the other source. For there is a natural relation to be observed between the tissues and organs of the higher or more complex beings in the course of their development, and the more advanced condition of those of the lower or more simple ones—a relation which has been misinterpreted, misexpressed, and absurdly exaggerated, but which nevertheless exists, and is pregnant with interest and instruction. The nature of this relation will become more apparent hereafter; for the present let the following illustration suffice:—

In a very early stage of its development, the heart of the chick appears as an elongated sac or contractile tube, connected behind with veins and in front with an artery. Thus in its general condition it resembles the simplest form of heart met with amongst the invertebrata. Soon the tube becomes bent upon itself, and divided by two constrictions into three compartments, freely communicating. The one in which the veins terminate becomes auricle, the next ventricle, and the third an arterial bulb. Now in its general condition it resembles the heart of a fish. Then the single auricle, ventricle, and arterial bulb each becomes divided into two, so as to form the left and right heart, as it occurs in birds and mammalia.

You may at once understand that the phases of development of an organ or system in the higher animals are not mere repetitions of its perfect state in the lower ones; but the relation between the comparative anatomy and development of an organ or system is simply one of plan—the plan upon or order in which the several parts are evolved; that is to say, in an embryo the more general characters appear earlier than the more special ones.

Beyond this the only resemblance that can be truly drawn between the embryos of the higher animals in the course of their development and the more advanced conditions of the lower ones, is what may be called a *negative* resemblance. It is due merely to the absence of positive or special characters in either case. In proportion as the special arises out of the general, as the several parts are evolved, the distinction becomes manifest.

With regard to the relation between the higher beings in the course of their development and the more advanced conditions of the lower, perhaps the clearest way of expressing it is this: That at any given stage in the development of the higher, it has attained a grade of development equal to the more or most advanced condition of the lower; but, save in the equality of the grade, the characters are more or less distinct.

Therefore "every embryo of a given animal form, instead of passing through the other forms, rather becomes separated from them." Thus "the history of the development of the individual is the history of its increasing individuality in all respects."

Although the evidence derived from development is, in one sense, of more direct value than that afforded by comparative research, yet the source is a more limited one, and the facts themselves more difficult to obtain.

When I mention that in the study of development we observe the heart to beat while yet merely a mass of globules; the blood to move independently, I believe, of the heart's influence; that all this, and much more, occurs before the nervous system is fairly formed; that the liver, again, is relatively much larger before birth, when there can be no digestion, than afterwards, I must have said enough to convince you that the study of development claims a foremost place amongst the means by which the largest truths have been established.

Such, then, gentlemen, are the principal sources whence our knowledge of physiology flows. We study this life of our's thus. Assisted, when needful, by the microscope, we gain an insight, as far as possible, into structure, and, when practicable, into the minuter operations too; we analyze and learn the composition of parts; we compare and contrast these results with others elsewhere, but from similar sources, derived; we observe how each part is formed—in other words, how the results are obtained. And by experiment we vary the conditions and circumstances of our observation. Lastly, when practicable, we test evidence of one kind by that which is derived from other sources. In this way it is confirmed, and our knowledge secured.

What I have said to-day will, I hope, save us some time in future. When I appeal to this or that kind of evidence in support of any statement, you will understand its nature: why it is, and how it becomes, evidence.

Only let me once again direct your attention to the surpassing importance of clearly comprehending the principles of physiology. Indeed, I submit that this remark applies, not to physiology alone, but to all sciences. Sir John Herschel says, "Principles, not phenomena—laws, not insulated independent facts—are the legitimate objects of inquiry." They are at least its aim and end.

Gentlemen, I have spoken of the great principle of division of labour. As in nature, as in the arts, as in society, so does it hold good in teaching. It must be accomplished, if it is to be satisfactorily performed, upon the same principle. Time was when the knowledge of the several subjects of our studies was in such a rudimentary state—when so very little was known of the natural sciences, and consequently of the principles of medicine and surgery—that it fell within the limits of possibility for one man to lecture upon two or three of them. Teaching was then simpler and much more incomplete. Now, although what is known is still only a mere fragment of the unknown, our knowledge of the several subjects has grown to such an extent that, so far from one man being able to expound, within reasonable time, any two of them, it becomes almost impracticable to do justice to any one. Thus, then, as knowledge grows less incomplete, instruction becomes more complex, and can only be carried on by dividing the several subjects amongst many teachers.

But observe, I pray you, that just as in nature and in society division of labour by no means implies individual independence, so woe be to the student or practitioner who, in an anxiety to investigate any one special subject, neglects to study and understand the others. The several branches of our studies, like the different organs of our bodies, should blend together into one harmonious whole; each of necessity possessing a distinct but by no means an independent existence. If one should attain undue prominence at the expense of others, deformity results. No one can be discarded or cast aside without endangering or destroying the successful operation of the rest. Beware of this, for its neglect is our besetting sin in the present day. There is sympathy as close, as necessary, as universal, in science as in nature. In nature nothing exists for itself alone. In science no subject can be successfully studied by itself—alone. Philosophers recognise alike the balance of nature and the mutual relation of the natural sciences.

Clinical Lecture
ON LITHOTOMY.

Delivered at St. Thomas's Hospital,

BY SAMUEL SOLLY, Esq., F.R.S.,
SURGEON TO THE HOSPITAL.

PART II.—(*Continued from* p. 4.)

No. 34.—A boy, aged ten years. This case terminated fatally on the twelfth day from serous apoplexy consequent upon diseased kidneys. I have a very long and good account of the case, taken by my dresser, Mr. Way. From this report I will make some extracts:—

"A thin, fair-complexioned, delicate boy. He complains of much pain in the region of the bladder and extremity of the penis, by pulling which the finger and thumb are much soddened; complete incontinence of urine, which is cloudy, alkaline, and contains traces of albumen. The stone was felt at the first sounding. He was ordered fifteen minims of dilute muriatic acid in the infusion of buchu." The poor boy's suf-

ferings were fearful; so that on the twelfth day after his admission I operated, whilst the patient was under the influence of chloroform, and extracted an irregular, rough stone with sharp points, weighing two drachms and a scruple. The outer surface was phosphatic. At nine P.M., after the operation, he appeared very comfortable and free from pain. The urine passes freely by the wound.

Jan. 20th, 1856 (the day following the operation.)—"He had a comfortable night, and is now quite easy and cheerful; no tenderness of abdomen; wound healthy; pulse 90; feels hungry. The relief the boy has obtained from the operation, considering the severe pain he suffered previously to it, is very remarkable.

"22nd.—Doing well in every respect."

From this date he began to flag; his stomach became irritable; he had hiccough and sleeplessness; and, notwithstanding careful watching and attention of every kind, gradually sank.

"26th.—Pulse 150; eyes dull; countenance cadaverous; takes no notice of anyone, though perfectly rational; rejects everything but iced water.—Eleven A.M.: Shrieking and so furious that he can hardly be kept in bed."

Believing that serous effusion was commencing in the brain, I employed mercury, both by the mouth and skin, and the fatal event was delayed for four days.

"30th.—Much worse this morning, having been violently delirious during the greater part of the night; is now insensible and quiet, merely throwing his arms about; does not take anything. He died at a quarter past eleven P.M., having gradually sunk."

Post-mortem examination.—Height, 3ft. 11in.; weight, 2st. 8lb.—General appearance: There was a healthy-looking wound in the perineum, the result of the operation. The right pupil was dilated; the left somewhat contracted.—Head: The membranes of the brain were healthy, though the vessels were somewhat congested. Very numerous dark vascular points were seen on section of the brain, and its ventricles contained from two to three ounces of clear serous fluid. The inferior vermiform process of the cerebellum was prolonged forwards, and adherent to the valve of Vieussens.—Thorax: The heart and pericardium were quite healthy, as were also the lungs and pleuræ.—Abdomen: Peritoneum quite healthy. The stomach and small intestines contained seventeen good-sized ascarides lumbricoides; two of these were in the stomach, the rest were found occupying the duodenum, jejunum, and upper portion of the ileum. About the middle of the last-named intestine a small intussusception was found, the upper portion being intruded into the lower for about half an inch. The mere removal of the intestines was sufficient to restore the parts to their proper situation. No products of inflammation were present; nor, after its reduction, was it possible to tell the portion it occupied. In the large intestines a few ascarides vermiculares were found. With these exceptions the intestines were healthy.—The pancreas was healthy, as were likewise the spleen and liver.—Kidneys: These were extensively diseased. The left one was small, and consisted of little else but dilated calices, invested by the cortical substance, which was thin and compressed. The pelvis and calices were filled with a puriform fluid, and their lining membrane was roughened by calcareous deposit. The Malpighian corpuscles and tubes were found to be very much atrophied, their place in some parts being taken by a kind of fibroid deposit. Concretions were also seen scattered through the structure; some had the well-defined prismatic form of triple phosphate, and the action of reagents upon other amorphous masses proved them to have the same composition. The right kidney was much larger than the left, and was somewhat hypertrophied. The cortical substance was pale, and had a larger extent than natural. The medullary in some parts was encroached upon by the dilated calices; in others, its situation was distinctly marked. The tubes in a few parts seemed to contain healthy epithelium, and in their normal proportion; others were gorged with it; but the greater number, perhaps, contained none, its place being taken by a granular blastema. Both ureters were much dilated and their walls thickened.—The bladder was small and contracted. Its muscular walls were very much hypertrophied (about half an inch in thickness). The mucous coat was thickened, and presented patches of superficial ulceration. On the left side, at its anterior and inferior part, was the opening made by the operation. Some calculous matter surrounded it.

No. 35 was an old man in his eightieth year. He was a healthy-looking man; but he sank, as I suppose is not surprising at his great age, from venous hæmorrhage on the third day.

No. 36—a lad aged eighteen; got well rapidly.

No. 37—aged fifty-six; had had symptoms of stone for five years. The stone removed was a very large one, weighing two ounces and nearly two drachms; but he was quite well again in less than a month.

No. 38—aged sixty; got well very rapidly, though the stone was large, weighing one ounce and a half.

No. 39 also recovered; but as the case is interesting in many ways I will give it you in detail, as reported by Mr. Sutcliffe.

Joseph H——, aged thirty-one, Chilvers Coton, near Nuneaton, admitted into West Herts Infirmary on 2nd April, 1857, under the care of Mr. Solly. Had always enjoyed good health until about ten or eleven years ago, when he was laid up for nine days with an attack of gravel. He passed a considerable quantity of blood, and suffered much pain, but was relieved by voiding a small calculus by urethra, after which for two years he felt no inconvenience. He then had another attack, and passed two more small stones. He then went on for another year and a half, when he passed several more; some as large as peas. For the last two or three years he has not passed any, but has for a long time had a large quantity of sediment deposited from his urine. About seven years ago a calculus was detected in his bladder by a surgeon at a country infirmary; after which he went to a London hospital. Was seen by Mr. ——, who felt the stone, but did not think the man in a sufficiently healthy state to operate on. He was then suffering from symptoms of phthisis, and was spitting a good deal of blood. The surgeon advised him to return into the country for a time, as he might get into a better state of health.

On admission, he was somewhat emaciated; countenance anxious; pulse 100, regular; tongue clean; skin moist; bowels regular. He can retain as much as half a pint of urine at a time in the day, but has to get up two or three times to micturate in the night. Appetite good; has a slight cough, and expectorates a small quantity, but has not spat any blood for two years. The chest was dull on percussion over the upper part of both lungs; respiration harsh and bronchial; but very little healthy murmur. The heart's action was quick but regular. On examination, the urine had a specific gravity of 1014; it contained much mucus, a little pus, and abundance of triple phosphates; smelt strongly ammoniacal.

On 7th April, Mr. Solly, having sounded him, both felt and heard a large stone; and, not considering it a suitable case for crushing, he performed the usual lateral operation (the patient being under the influence of chloroform), and removed a large stone weighing one ounce and a drachm (troy). It had a peculiar black, smooth appearance, which Mr. Solly did not think a very favourable symptom. After the operation, some rather troublesome hæmorrhage arose, requiring three or four ligatures. He was very sick, and his bowels were freely opened.—Half-past six P.M.: Very restless; complained much of pain about wound and lower part of back; hæmorrhage ceased. Ordered, twenty-five minims of solution of opium immediately; also, to take three times a day, fifteen minims of dilute nitric acid in one ounce of infusion of diosma. Stone poultice to be applied to the abdomen, and oiled lint in the wound.—Half-past eight P.M.: Still in much pain; urine flows by the wound. Repeat sedative draught.—Eleven P.M.: Easier; dozes for a few minutes at a time.

April 8th.—Ten A.M.: Slept about an hour during the night; no further hæmorrhage. Tongue dry; pulse very quick; urine flowing freely by the wound.—Three P.M.: Suffering much pain; has passed a little urine by urethra, but more by the wound; abdomen rather tender. Introduced little finger into the wound, when about half a pint of urine was expelled with much force, after which he had some shivering, which went off in about half an hour.—Nine P.M.: More comfortable. To repeat sedative draught.

9th.—Slept a good deal better during the night. The urine has flowed freely by wound. Tongue more moist; pulse slower. Takes plenty of barley-water and beef-tea.

11th.—Going on favourably; wound looking healthy; plenty of urine passing; has lost all tenderness over abdomen. Bowels not open. Ordered half an ounce of castor oil.

12th.—Had a good night; bowels freely relieved by the oil. He continues his opiate at night.

16th.—Has gone on without drawback since last note. To-day he has begun to pass some urine by the natural passage; his urine still contains much mucus, is alkaline, specific gravity 1015.

23rd.—Wound fast healing; very little urine now escapes by it.

29th.—Wound all but healed; only a drop or two of urine passed that way, and that only when voiding it by urethra.

30th.—No urine now passes by wound; urine continues much in the same condition. Ordered, dilute nitric acid, twenty

minims; decoction of pariera brava: three times a day; one pint of porter daily.

May 2nd.—Urine rather improved.

13th.—Wound quite healed; urine less turbid; his general health improved, but expectorates rather more.

21st.—Discharged.

I have just received a line from this patient, dated Nov. 6th, in which he says—"Sir, I take up my pen to let you know that I have enjoyed good health since my return from Hemel Hempstead till within a quarter of a year." Thus it will be seen that this operation gave him above three years' comfort and enjoyment, though I fear, from the conclusion of his note, that he is now suffering from some disease in his kidney. "I can eat as well as ever; but I am very sore in my right kidney; it pains me very bad for two or three days at a time, and then I am somewhat easier for a few days. My urine is bad, and settles like matter."

Since this was written he has been admitted under my care. He is pale and thin, and suffering, I fear, from disease in the right kidney; otherwise he seems quite sound, and is free from all pain in his bladder, or any irritability of it.

(To be concluded.)

OBSERVATIONS ON CERTAIN TUMOURS OF THE NECK,

WITH NOTES RELATING TO ITS SURGICAL ANATOMY.

BY ANDREW MELVILLE M'WHINNIE, Esq., F.R.C.S.

IN my last communication on the subject of Bronchocele (*vide* THE LANCET, vol. ii. 1861, pp. 30 and 107), most of the operative proceedings which had been adopted for its treatment were alluded to, whether instituted with the view to its diminution or to the relief of the urgent symptoms occasioned by the tumour.

The various plans, too, of treating the cysts which are found in connexion with the thyroid body were considered. Their complete removal, it may be added, when not very large or deep, appears, in the hands of some surgeons, to have been less hazardous and more successful than by puncture or incision. Mr. Liston met with several cases of encysted tumours lying upon and connected with the thyroid body in children and young people, which, from causing deformity and inconvenience, demanded surgical interference; and was successful in some instances in accomplishing their entire removal by careful dissection—in one patient even where puncture and seton had failed.

Besides operations upon the enlarged thyroid body itself, those also were noticed which had been practised on the air-passages for the relief of the dyspnœa occasioned by goitre, which has been known likewise to cause fatal emphysema.

In the "Encyclopédie Méthodique," the author of the article "Bronchotomie" relates that he opened the body of a man who died of an emphysema which came on instantaneously. The patient had had for a long while a bronchocele, which had become of an enormous magnitude towards the end of his life. The cavity of the trachea was so obliterated that there was scarcely room enough to admit the thickness of a small piece of money. Doubtless bronchotomy performed before the emphysema made its appearance would have prolonged the man's days.

In addition to these remedial measures must be mentioned the operation of setting free the tumour by the division of the cervical fascia—a practice, I believe, noticed in Dr. Clarke's Travels.

My friend and fellow-pupil, the Rev. T. Ridout Tuck, of Epping, recalling to memory the case of the boy represented in Figs. 2 and 3,* informs me that as soon as the fascia in front of the neck had been divided in order to reach the windpipe, instantaneous relief was afforded to the breathing; so manifest was it that Mr. Earle for many minutes laid aside the knife, in the hope that further proceedings might be unnecessary. The division of the fascia, which seemed to have acted as a sort of tight bandage or ligature, did not, however, give sufficient permanent freedom to the respiration, and laryngotomy had to be performed, as already stated.

Mr. Tuck has a vivid recollection of the incidents connected with this important case, and remembers well that at the clinical lecture afterwards, Mr. Earle placed the knuckles of his forefingers together, *dos à dos*, to represent the appearance of the "hourglass contraction" caused by the transversely constricted trachea, which had not been reached by the artificial tube.

The larynx was opened immediately above the hypertrophied isthmus which covered the cricoid cartilage; but previously to the crico-thyroid membrane being perforated, an artery was wounded, which caused much difficulty and trouble to the operator.

Fig. 2 represents the irregular and prominent central lobe formed by the isthmus, much augmented in volume. It will be readily understood how the pressure exercised by it upon the front of the trachea may have been at once relieved by the division of the fascia in this situation.

The case of bronchocele in which Mr. Cusack saved life by the prompt performance of laryngotomy (a narrative full of interest in other respects) furnishes an instance in which permanent benefit attended the division of the cervical fascia, when binding down and confining the tumour.

Mr. Cusack was called suddenly to the youth, who was thought to be dying. On going into the ward in Steevens' Hospital, he found him comatose, and unable to speak. The respirations were not more than five in the minute, the pulse being very slow and feeble. Mr. Cusack, having observed during the day that the patient was in the habit of obtaining some relief by pressing on the front of the tumour, so as to relax the investing fascia, caused similar pressure to be made by an assistant (when he was no longer able to do it himself), with sensible relief to the lad. Guided by this circumstance, he made a free perpendicular incision over the upper and front part of the tumour, so as either to afford relief by the division of the fascia, or as a preliminary step towards opening the air-passage. Unfortunately, during the time that this division of the integuments and fascia was being made, the patient ceased to breathe, and it became necessary at once to open the larynx through the crico-thyroid space, the only part of the air-tube, it will be remembered, that could be reached; for the enlarged thyroid extended from that point to the sternum, completely concealing the trachea. After the long flexible tube had been in the artificial opening about two minutes, it suddenly became obstructed, and had to be withdrawn; but the boy had now recovered sufficiently to be able to breathe without its assistance, and it appeared that the division of the fascia, assisted by some serous discharge from the gland, had relieved the pressure on the trachea, and he was soon able to speak. The wound was then closed, wet lint was applied to the portion of the gland which protruded through the incision, and he soon fell asleep, having been without rest for several days. The gland, from which there was a constant discharge of serum, became much smaller. In about seven days the opening into the larynx had closed, and peas were placed in the external wound to keep up the discharge. He stated that his breathing was freer now than it had been for some months. He remained in the hospital six weeks, by which time the tumour had become so small as to be scarcely perceptible. He occasionally came to the out-patients' room to show himself, but the tumour did not exhibit any disposition to enlarge again.

In concluding the account of this successful and highly creditable case, Mr. Cusack remarks that the favourable result may be attributed to this latter part of the treatment; and that, had the division of the fascia been accomplished earlier, the necessity of opening the larynx might have been avoided. "The operation," adds this eminent surgeon, "of dividing the fascia, is recommended by some practitioners, but I have not been able to find any recorded cases in which it was successfully practised."

The diagnosis of bronchocele, unless in a very early stage, when, indeed, it gives but little concern, is usually unattended with difficulty. In those cases commonly known as the "Derbyshire neck," there is the appearance of simple fulness in front of the throat, presenting to the touch a uniform slightly resisting and smooth elastic swelling, the contour of which is familiar to everyone.

In the more advanced and developed state of the disorder, the original uniformity and symmetry are lost—one part becoming enlarged independently, and more prominent than the rest; and when grasped, may be found to be either soft and flabby, or, losing its elasticity, to be more dense in texture, perhaps irregularly lobulated, and cysts being occasionally de-

* These illustrations will be found in the numbers of THE LANCET referred to at the beginning of this paper.

tected towards the surface. The whole swelling may acquire a cartilaginous, and in a few instances even a bony, hardness. In all these conditions, the integument, though sometimes traversed by veins, retains its natural colour, and there is usually no tenderness or pain.

It is well known that the injurious effects produced by the tumour are sometimes quite disproportionate to its bulk: thus, grave symptoms may arise from a very moderate enlargement; fatal dyspnœa even may result from one which had not attracted attention. Mr. Tuck assures me, that in the case in which death resulted from the compression of the trachea, the real cause of the dyspnœa was not known until after the performance of the operation undertaken for its relief. It was thought, indeed, to arise from the inhalation of metallic particles from a brass foundry in which the boy had been employed. The post-mortem inspection showed that the more permanent and fatal compression of the trachea was especially due to the growth of the lobes, lurking, as it were, backwards towards the vertebræ—a condition necessarily more or less obscure during life, and termed by the French, "goître en dedans." In this way the œsophagus may be included amongst the structures involved, and starvation, as in an instance cited by Dr. Watson, be the consequence. The thyroid body, when only slightly enlarged, can scarcely be distinguished from the surrounding adipose tissue. Here, amongst other physical signs, the up and down movements which accompany the larynx during deglutition lead to its recognition; but this ordinary characteristic feature is not always present in the more advanced stage, where the swelling, as in Fig. 1, has acquired distant connexions with parts low down in the neck, and still more remotely in the chest. In one instance, it appeared to have gained a close attachment to the upper part of the sternum, having reached the anterior mediastinum.

(To be continued.)

OPERATION FOR

STRANGULATED FEMORAL HERNIA IN A PATIENT AGED NINETY-FIVE YEARS.

By ROBERT HARPER, L.R.C.P. EDIN.

On May 17th, 1861, I was requested to visit Miss S. B——, aged ninety-five, and possessed of extraordinary mental vigour, who was said to be "very ill." I found my patient in the following state:—Has constant vomiting of fluid, somewhat resembling the watery evacuations of diarrhœa, but without fœcal odour; great pain, referred to the umbilical region, and great tenderness on the right side of the abdomen; bowels not been open for four days. The vomiting has been present for eighteen hours, and the pain and tenderness increase. She has taken aperient pills, castor oil, and brandy.

Upon examination, I found a femoral hernia about the size of a walnut, very tense, and too tender to admit of much manipulation for its reduction. I told her friends that an operation was necessary, and after consultation with Mr. H. Ewen, of Long Sutton, it was proposed to her. She at first hesitated, but afterwards consented to its being done.

At seven P.M., I performed the usual operation. I opened the sac, found the gut of a port-wine colour, and so tightly strangulated that I had great difficulty in getting the hernia knife through the strictured part. I, however, succeeded at last in doing so, divided it, and returned the bowel. The edges of the wound were brought together by sutures, a pad of lint and a bandage applied, and the patient put to bed. The patient took a little brandy-and-water during the operation, which she bore with great fortitude. I ordered her a pill consisting of a grain of opium powder, to be taken immediately. It would occupy too much space in your journal to give the daily details of this case; suffice it to say, that the vomiting ceased immediately after the operation, and that the pain and tenderness also soon subsided. The bowels acted on the third day from a dose of castor oil. On the fourth day, I removed the sutures, and found the wound healed for two-thirds of its extent. From this time the wound progressed favourably till the thirteenth day, when I find by my notes that it was quite healed. During this time, however, she had occasional attacks of dyspepsia, which she has been subject to for many years, and she did not appear to regain the strength which she had lost, so that she continued to keep her bed. A few weeks after this she had a troublesome attack of hæmorrhoids; bleeding occurred frequently, twice to an alarming extent for her age, and from which she sank, and died just seven weeks after the operation.

When I was first called to this patient, the symptoms were so urgent, the age so great, and the lady herself in such a delicate state of health for many weeks previously, that I confess I thought the chances of her recovery very small, yet the case may be recorded as a successful one, inasmuch as she experienced immediate relief from the operation. The wound was healed within a fortnight, and she died from other causes unconnected with hernia. She was, I believe, the oldest person *by many years* on whom the operation has ever been performed. I have been unable to ascertain any case after the age of eighty-five.

It is worthy of remark, that in this part of the country, which is still called the Fen District (although the land is thoroughly drained and in a high state of cultivation), many persons live to a great age. Several persons have died during the last five years, at ages varying from 90 to 100. At one time during the last winter, I had under my care in the infirmary fifteen persons of the average age of seventy-six years. This is the more surprising, from the fact that among the lower classes, opium-eating is carried on to a fearful extent here; many of them take from a quarter to half an ounce of solid opium weekly. It is not only taken habitually, but given for all ailments. It is a common occurrence, upon inquiry, to find that the patient has taken "a bit of opium about the size of a pea" before the medical man is sent for. The mortality among young children is great.

Holbeach, 1861.

A Mirror

OF THE PRACTICE OF

MEDICINE AND SURGERY

IN THE

HOSPITALS OF LONDON.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.*, lib. 14. Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

SINUS IN THE THIGH, COMMUNICATING WITH A CHRONIC ABSCESS, IN WHICH WAS A PIECE OF NECROSED BONE.

(Under the care of Mr. SKEY.)

For the notes of the following case we are indebted to Mr. Charles Brook, house surgeon to the hospital. The details are full of practical interest, and well illustrate the value of the plan pursued in effecting a cure:—

Maria H——, aged eighteen, was admitted Oct. 7th, 1861. She is a well-nourished girl, and had a fall upon the left hip two years ago; but she suffered nothing from it till about four months afterwards, when it became painful, and an abscess formed, which was opened by a surgeon. The opening, however, never healed, and a sinus formed, from which a slight discharge of pus continued. She remained thus up to May, 1861, when her health having failed she obtained admission into a provincial hospital, which she left in June, her health being improved; but the state of the thigh was the same as when admitted, no surgical interference having been attempted.

When admitted into St. Bartholomew's Hospital, her general condition and appearance were good; but there was a small opening in the left thigh, about an inch behind and below the great trochanter. A probe passed in to the depth of an inch and a half. There was not more than half a drachm of pus discharged daily.

Oct. 19th.—The opening was dilated by means of a small sponge-tent, and the discharge then became greater—about half an ounce in the twenty-four hours. Lint, soaked in balsam of Peru, was inserted daily. She was ordered a drachm and a half of tincture of cinchona thrice a day.

28th.—Sinus not healing, the discharge is healthy, and the

same in quantity. A probe could now be passed deeper into the back part of the thigh.

Nov. 6th.—The sinus continuing the same, the patient was put under the influence of chloroform, and Mr. Skey laid open the sinus by a vertical incision, about five inches in length and two inches in depth. At the bottom of this was found a small cavity, lying farther back in the fleshy part of the thigh. This was laid freely open by a deep incision backwards at right angles to the first. It was lined by a very distinct pyogenic membrane, of a dark-red colour, smooth, and of a thick fibrous texture. In this cavity was found a piece of bone, of the size of a horse-bean, covered with soft coagulated lymph, and not apparently of recent separation. The cavity and incisions were plugged with dry lint, and the patient returned to bed.

9th.—There was free secretion of healthy pus from the whole surface, and healthy granulations appeared at the bottom of the wound. Lint laid in daily.

23rd.—The cavity and greater part of the incisions have filled up. The patient continues well.

Dec. 6th.—The cavity is almost level with the integuments. Allowed to get up.

GUY'S HOSPITAL.

CARCINOMATOUS TUMOUR IN THE SHAFT OF THE TIBIA; AMPUTATION THROUGH THE THIGH; RECOVERY.

(Under the care of Mr. THOS. BRYANT.)

THE following cases are good examples of some of the varieties of tumour developed in bone, the first two involving the head of the tibia, for which amputation was performed. The notes of each were taken by Mr. Lionel Booth, one of the pupils.

Joseph S——, aged sixty-six, was admitted on the 1st July, 1861. He was a remarkably healthy-looking man, of steady habits. The patient stated that about five years ago he struck the lower part of his tibia with an axe; soon after which he noticed a small swelling, the size of a nut, on the upper part of the lower third of the anterior surface of the tibia. This swelling appeared to be on the bone, the integument being readily moved over it. It was free from pain, and caused no inconvenience except when struck; the pain then lasted for two or three days. The tumour gradually increased in size for two years, when (three years since) it was about as large as a walnut: at this time it became more painful, particularly after he had been walking more than usual. He sought medical advice, and applied lotions, &c., but without benefit. Two years and a half ago he fell down a sawpit and fractured the tibia, the line of fracture being said to have been above the tumour. The fracture was "set," and he recovered; but as the swelling enlarged he applied to Mr. Bryant, who advised his admission into Guy's Hospital. In September, 1858, he was accordingly admitted. The tumour was very hard and bony to the touch, existing within and apparently expanding the bone. The fracture had evidently firmly united. The man's health was good, and no glandular enlargement existed. Amputation was then advised, but as this suggestion did not meet with the man's approval he left the ward.

When readmitted, two years and a half subsequently, the tumour had very much increased. A large projecting mass of disease existed in the shaft of the right tibia, of a firm fibrous feel; the surface was ulcerated, and appeared to be sloughing. Its circumference was nine inches at its base, and it was raised three inches from the bone. It was apparently of a malignant nature; no glandular enlargement, however, could be detected.

On July 9th, Mr. Bryant amputated the limb above the knee-joint, believing that by such a practice the best chance was given to the patient. He steadily convalesced, although the stump is not yet quite healed. On examining the limb, a large, hard, cancerous tumour was found to have developed within the shaft of the tibia. The bone at this spot had entirely disappeared, the denuded ends passing into the cancerous mass. The microscopical elements were those of the ordinary carcinoma fibrosum.

MYELOID TUMOUR IN THE HEAD OF TIBIA; AMPUTATION OF THE THIGH; RECOVERY.

(Under the care of Mr. THOMAS BRYANT.)

Louisa B——, a pale, delicate-looking married woman, was admitted on April 11th, 1861. Her general health had been always good. She first observed something wrong with her leg nine months previously, a pain, which she regarded as of a rheumatic nature, existing at the lower part of her right knee-joint. She rubbed it with turpentine embrocation without benefit, and soon observed that the part appeared somewhat swollen. The pain and swelling continued for about three months, when she fell over a stool, at which time she felt something snap in the inner side of the knee-joint. She then went to a surgeon for advice, who successively applied blisters, plasters, bandages, and poultices, but without benefit. Two months since, the swelling, having much increased, was punctured with a lancet, nothing but blood, however, being evacuated.

The enlargement continuing to increase, and pain augmenting, she applied to Mr. Bryant, who advised her to come into Guy's Hospital. When admitted, an evident enlargement existed in the head of the right tibia, apparently depending upon an expansion of the bone. To the touch it was somewhat elastic, and congested veins existed over the part. She complained of pain in the tumour on pressure, the pain extending down the leg and upwards to the hip. Her general health was good. Tonics were administered, and rest enforced; but as the tumour evidently was rapidly increasing, amputation was proposed. The patient then left the hospital for domestic reasons, and returned on June 3rd. When readmitted, the tumour had certainly much increased in size, the leg at this spot measuring sixteen inches in circumference. The leg was partially flexed upon the thigh, and perfect extension was impossible. The pain was also unaltered in character. There was no glandular enlargement, and her general health was considered to be good.

On the 11th of June Mr. Bryant amputated the limb above the knee, forming an anterior and posterior flap. The patient went on steadily convalescing, until she completely recovered.

The tumour, on examination, proved a fine specimen of the myeloid nature; it was developed within the head of the tibia, and had expanded its walls, so that in parts the external shell of bone was not to be discovered. Towards the joint the articular lamella had disappeared; the articular cartilage, however, existed in its natural condition, and alone separated the tumour from the joint.

A model of this case may be seen in the Guy's Hospital Museum.

ENCHONDROMATOUS TUMOUR OF BONE.

(Under the care of Mr. T. BRYANT.)

Elizabeth W——, a married woman, aged fifty-nine, was admitted July 1st, 1861. She was of a remarkably healthy aspect, and had always enjoyed good health. Two years prior to her admission she sprained the little finger of her left hand, from which time the first phalanx began to swell. The progress of the disease had been very gradual, and no treatment appeared to arrest its growth. There was little pain in the tumour, except after manipulation or an injury, when it was more severe.

When admitted, the first phalanx was much enlarged, evidently from its expansion; the finger measuring three inches in circumference. The joints were uninvolved.

On June 18th, Mr. Ninnis, the dresser, amputated the finger, making an external semicircular flap. Everything progressed well, and convalescence followed.

On examining the tumour, a good specimen of the enchondroma was to be observed, having been developed in the bone, and expanding its walls; the bone being merely a shell surrounding the cartilaginous mass.

UNIVERSITY COLLEGE HOSPITAL.

FIVE DIFFERENT AMPUTATIONS PERFORMED ON A SINGLE OCCASION FOR VARIOUS DISEASES.

(Under the care of Mr. ERICHSEN and Mr. H. THOMPSON.)

THE operating theatre of this hospital was crowded to excess on the 18th ultimo, through an announcement that as many as five different amputations were to be performed in succession upon as many patients. We were strongly reminded on this occasion of the days when Liston operated in the same theatre.

The following is a brief outline of each case, and the time taken to accomplish the ablation of all the limbs was an hour and a half, including the administration of chloroform and dressing of the stump previous to removal to the ward. In fact, each patient was given chloroform in the ward, so that no time was lost; and this was ably managed alternately by Dr. Clover and Dr. Ringer.

CASE 1. *Caries of tibia; amputation of the leg.*—The patient was a young man, who had been the subject of caries of the lower end of the tibia for some months. Mr. Erichsen had already gouged away the diseased part; but afterwards the man had an attack of fever, with some internal disease, and suppuration about the seat of the caries, extending to the ankle. It was considered useless to attempt to preserve the foot; so, to save life, amputation was resorted to through the leg. In doing this, Mr. Erichsen adopted the method of rectangular flaps of Mr. Teale, of Leeds. A long rectangular flap from the anterior part of the leg was made, including the muscles down to the interosseous space, carefully dissected up, and a short posterior flap. The operation was done in accordance with the rules laid down by Mr. Teale, and very little blood was lost. The anterior tibial artery, which was here cut long, was tied with a silver wire, the others with ordinary ligatures, and the flaps were nicely adjusted by silver sutures. This was for the purpose of testing the merits of each in point of time of separation. Mr. Erichsen remarked that he adopted the wire sutures on the present occasion, especially as he was honoured by the presence of Dr. M. Sims, who had introduced them into practice in surgery, particularly that branch of it in connexion with the female organs of generation.

CASE 2. *Cancroid disease of hand; amputation of forearm.*—An elderly man had his left hand affected for several years with a cancroid disease, or form of lupus non exedens, which had rendered it perfectly useless, and resisted every mode of treatment. The fingers were straightened and stiffened, and the hand slightly bent backwards; its removal would give him a useful stump to which a hook could be attached. The double flap operation was performed through the lower third of the forearm, by Mr. Erichsen, who ligatured *all* the vessels with silver wires, and brought the flap together by sutures of the same material. In this instance, the ends of the wires were cut close to the vessels, whilst in the first case the wire was allowed to hang out with the other ligatures. Wet lint was applied as in the first case.

CASE 3. *Injury to hand and forearm; amputation of the arm.*—A man aged fifty-three years, sustained an injury to his left hand and forearm, which was followed by complete disorganization of the tissues through an attack of erysipelas, especially in the forearm. He had been in the hospital three or four days, and Mr. Erichsen now amputated through the arm above the elbow by means of a double flap. There were a number of vessels to tie, which were ligatured with silver wires cut close, and the flaps adjusted by sutures of the same material. In this and the previous instance, the wires around the vessels necessarily remained in the stump. In these three cases linen retractors were used, heretofore seldom employed in this hospital; but in using the saw the bone-dust becomes embedded in the flaps; and if it is desirable to get union by adhesion, it is as well, Mr. Erichsen remarked, to employ them.

CASE 4. *Disease of tarsus; Syme's amputation at the ankle-joint.*—The patient was a boy of twelve years, with disease of the right tarsus, of an incurable nature, for which Mr. Henry Thompson thought Syme's amputation more suitable than Chopart's operation, especially as he had to earn his living. This was, therefore, done, strictly in accordance with the rules laid down by Mr. Syme, and more expeditiously than we remember ever to have seen it before. The flap formed by the heel was most evenly adjusted, and promises well for the future. This operation Mr. Thompson has performed several times with results in the highest degree gratifying, because in none was there any sloughing of the heel, owing to rigid adherence to Mr. Syme's rules.

CASE 5. *Syphilitic disease, and disorganization of leg and knee from erysipelas; amputation of the thigh.*—In October last, a poor girl was admitted with an old syphilitic ulcer in the left popliteal space, which had matted all the neighbouring tissues together, in a previously contracted joint. In February, Mr. Thompson had straightened the limb by simple extension, and the patient went out relieved. He at that time divided the three ham-string tendons; the result was good, but afterwards erysipelas occurred round the knee. The state of the limb subsequently became so bad, that the only chance which offered to save life was amputation of the limb above the knee, which Mr. Thompson now performed by antero-posterior flaps at the lower third of the thigh. Previous to the amputation, under chloroform, the knee was found to be perfectly disorganized, with erosion of the cartilages. The patient was much emaciated. Very little blood was lost.

At the present time, all of these cases are doing well without any exception. There is some pain and tenderness in the second case, and the man is rather low; but there is no serious symptom. The subject of the fourth case was at first very weak; she, however, took stimulants well, and has greatly improved within the last few days, and eats mutton. In the fifth and last case, there has been no sign whatever of sloughing of the flap.

ST. GEORGE'S HOSPITAL.

HYPERTROPHY OF THE HEART, HYDROTHORAX, AND DISEASED KIDNEYS; FATAL RESULT IN TWENTY-FOUR HOURS.

(Under the care of Dr. PAGE.)

CONSIDERING the great amount of disease present in this case, together with the patient's age, it is remarkable that so little inconvenience was experienced the night before a fatal result took place.

Sarah W——, aged seventy, admitted April 10th, 1861. She had suffered for three or four months from palpitation, cough with expectoration, and latterly slight œdema. She had been liable to frequent attacks of dyspnœa. When she came into the hospital, she was blue and much distressed by want of breath, though she lay quite flat in bed on the right side. Some gin was ordered, and at night she had a draught containing a quarter of a grain of morphia and sulphuric ether. She slept unusually sound, and was very indignant when disturbed in the morning. The dyspnœa then increased greatly, and about noon she expired.

At an examination made twenty-five hours after death, the body was found to be in good condition. The legs were anasarcous. Each pleura contained a large quantity of serous fluid, by which the lungs were entirely compressed, though no part of them sank in water. The heart was very large, weighing 15½ oz. There were large patches on the front of this organ, following to a great extent the course of the coronary vessels. The walls of the right side of the heart felt rigid and leathery. The tricuspid orifice was capacious, admitting easily all the five fingers; and it was noticed that the superficial veins of the neck were very large. There was a good deal of atheroma of the mitral valve and at the root of the aorta. A moderate quantity of clear serous fluid existed in the peritoneum, the walls of the belly being slightly distended. There were many old peritoneal adhesions around the liver, which was healthy, weighing 3lb. 3oz. The spleen was natural. The capsules of the kidneys were adherent, and these organs were finely granular on their surface. The uterine organs were healthy.

ST. MARY'S HOSPITAL.

ADDISON'S DISEASE OF THE SUPRA-RENAL CAPSULES; CHOREA; FATAL RESULT; TUMOUR FOUND ON THE SPINAL CORD.

WITHIN the past few weeks, specimens of bronzing of the skin and disease of the supra-renal capsules, were exhibited before the Pathological Society, and excited considerable interest. They were taken from two different patients, and were considered to be typical of the form of disease which now goes by the name of Addison. The first example occurred at St. Thomas's Hospital, and is reported further on; the second was a patient recently admitted into St. Mary's Hospital, about whom we gathered the folloiwing particulars as related by Dr. Broadbent, the Medical Registrar:—

A young woman, aged twenty-three years, was admitted on the 1st November, 1861, with symptoms of chorea. A month before admission, she suddenly fell down and could not rise without assistance. She had no convulsions, paralysis, or loss of consciousness. This was followed by a low fever for two weeks. She then stated that she could not use her left hand, nor afterwards her left foot, as before. Choreic movements came on, and continued until her admission, at which time they were observed chiefly in the leg, hand, and face. She became gradually weaker, and in three days was delirious, getting out of her bed and falling down several times. Dr. Broadbent noticed at first a certain bronzing of the skin, which he set down to exposure to the sun, although it was afterwards ascertained that she had not been exposed to the solar rays, as she was of a sedentary occupation, and much confined to

the house. She gradually sank, and died on the 9th November.

At the autopsy, the supra-renal capsules were found to be extensively diseased; in neither was there any trace of their original healthy structure, but the microscope showed them to consist of scrofulous material. The weight of one capsule was five drachms and two grains, whilst that of the other was two drachms and six grains. On examining the spinal cord, a small tumour was discovered upon its posterior aspect in the lumbar region, springing from the interior of the cord itself. There was an enlargement of the latter higher up, but no further tumour. The melasma was more marked over the face and arms than elsewhere, and this had been noticed by the patient's friends before death. The brain and other organs were healthy.

The case may be looked upon as a true example of Addison's disease, with the accidental complication, if we may so call it, of tumour and enlargement of the spinal marrow, which it is fair to assume gave rise to the nervous symptoms resembling chorea. Excluding the spinal disease, no other change was noticed after death to explain the melasma but the diseased condition of the supra-renal capsules.

ST. THOMAS'S HOSPITAL.

ADDISON'S DISEASE OF THE SUPRA-RENAL CAPSULES; FATAL RESULT.

(Under the care of Dr. BARKER.)

DIFFERING from the preceding case, the melasma in the following example was in some parts of the body so extreme as to simulate the colour of the skin of a moderately dark negro. The specimen of it selected for illustration by Dr. Montgomery before the Pathological Society, seemed a very dark brown, approaching to black. Beyond some slight deposit of tubercle in the apices of both lungs, no parts were found affected but the supra-renal capsules, the case thus constituting a true example of Addison's disease.

The patient was a boy of fourteen years, who was admitted the middle of October in an emaciated condition, with his general health much out of order. It was learnt that the melasma appeared four months before his entrance into the hospital, previous to which time it was asserted that he had enjoyed excellent health. Pain in the right hypochondriac and umbilical regions was a prominent feature. The parts chiefly affected with melasma were the abdomen and loins, and inner side of both thighs. Generous diet, steel, and other means, were unavailingly employed, and a fatal result ensued after a stay in the hospital of about five days.

At the autopsy, with the exception of some deposit of tubercle at the apices of both lungs, the supra-renal capsules were the only parts found diseased. They were transformed into tuberculous matter, mixed with calcareous particles, and of their normal dimensions.

What may be looked upon as remarkable in this case, is the circumstance of the disease running its course, in a mere lad, in the very short space of four months and a half, previous to which the patient had been in very good health. Usually, Addison's disease extends over a much longer period of time.

CHARING-CROSS HOSPITAL.

THE POTASSIO-TARTRATE OF IRON IN RHEUMATISM.

(Under the care of Dr. WILLSHIRE.)

RHEUMATISM is one of those affections which at times resist all the ordinary modes of treatment in use, though occasionally it will readily yield to a remedy not commonly employed in that affection. This result we have observed in a case under Dr. Willshire's care, in the person of a somewhat pallid girl, Frances S——, aged twenty years, who was admitted on the 26th November last, with rheumatism of an erratic character, the pains flying about, as it were, to various parts of the body. To this she had been subject for the last three years, and nothing seemed to produce any marked improvement; she was, therefore, ordered a mixture containing the potassio-tartrate of iron, which has produced a decidedly beneficial effect in a short period of time, the pains having become gradually diminished, but not as yet wholly gone, and her health is better. Although pale, she has always menstruated with great regularity. In obstinate and suitable cases, this excellent preparation of iron should be borne in mind.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

MR. COULSON, PRESIDENT.

DR. COCKLE read a paper

ON SOME POINTS CONNECTED WITH THE PAST AND PRESENT HISTORY OF DIABETES, AND ON A LESS COMMON FORM OF DEATH IN THIS DISEASE.

The pathology of diabetes, the author observed, is still involved in great obscurity, notwithstanding all that has been written and all the striking experiments that have been performed having a direct or an indirect bearing on the subject. Experimental physiology, indeed, has as yet only partially cleared the way, and is not sufficiently advanced for us to base our treatment on it. It is even doubtful whether any genuine advance, in reference to the immediate cause of the disease, has been made since ancient times. Celsus, Galen, Aretæus, and the other ancient physicians, were not, indeed, aware of the presence of sugar in the urine in diabetes; but they were clinically conversant with a disease characterized by melting down of the solids, great thirst, and flow of urine; and their descriptions, Dr. Cockle argued, could be applied to no other disease than to mellitic or ureous diabetes. He specially noted, as a point of coincidence between ancient and modern views of the action of the liver, that, twelve hundred years ago, Alexander Trallianus advanced the same explanation of the thirst in diabetes as has been put forth by Bernard—that the liver acquires an increased temperature, and dries, as it were, the intestine.

Dr. Cockle then proceeded to notice the theories of the origin of sugar in diabetes, especially in reference to the doctrines of Claude Bernard. Primary disease of the brain in the neighbourhood of the fourth ventricle is to be regarded rather as the exception than as the rule; and, indeed, Bernard and Schiff have shown that irritation of various portions of the nervous centres will produce sugar in the urine. Moreover, the cerebral functions are, generally speaking, intact in diabetes. The liver does not undergo any constant change of volume or of structure; and this, Dr. Cockle thought, might possibly arise from the fact that this organ, in diabetes, only acts on an element natural to it. The kidneys are, as a rule, found healthy; and the congestion and hypertrophy of these organs sometimes met with are to be looked on as effects rather than as causes of the diabetic condition. But tubercle of the lungs, or intercurrent pneumonia, is an almost uniform sequence of diabetes, happening in at least three-fourths of the cases. There must here be some causal connexion, and this is a point of great importance with regard to any hepatic theory of the disease.

After a further series of interesting remarks on the etiology of diabetes, Dr. Cockle said it appeared to him that, in the present state of science, we are scarcely warranted in doing more than endorse the opinion of Cullen and Prout, that diabetes is a peculiar disorder of the assimilative functions, which may entail, but is not necessarily preceded by, any appreciable and constant organic lesion. We have still to learn what is the precise pitch in the vital chemistry of the body which allows so large a quantity of sugar to be formed and excreted by the kidneys. The mere presence of sugar in the urine, in all probability, no more constitutes the essence of diabetes than the presence of oxalate of lime constitutes the essence of what we call oxaluria, or tubercle in the lungs the essence of tuberculosis.

From a careful analysis of the evidence relating to the pathology of diabetes, Dr. Cockle was led to favour the hypothesis of a peculiar virus or ferment existing in the blood, and causing the excessive development of the saccharine element. In nearly all the theories advanced respecting diabetes, such ferment has played a principal part. Peter Frank supports this view, and instances the peculiar phenomena (quasi-diabetic) caused by the bite of the serpent dipsas, and authenticated by all the great physicians of antiquity. Latham also relates a curious case of diabetes supervening on the bite of a rat. The theory would seem, furthermore, to derive some support from the occurrence of an epidemic diabetes, reported by an old observer, and quoted by Wunderlich.

To speculate further, and argue that because irritation of portions of the nervous or vascular systems causes sugar to pass in the urine, diabetes is either a cerebral or a mere nervous or

hepatic disorder, appeared to Dr. Cockle as illogical as would be the assertion that Bright's disease of the kidney must also be cerebral, because puncture in a given portion of the hand gives rise to the escape of albumen in the urine.

The author then related three instances of sudden death in diabetic patients. The first case was that of a woman, aged forty-eight, a patient in the Royal Free Hospital, in whom the daily amount of urine had been reduced by appropriate treatment from eleven to five or six pints, although some trace of sugar still remained. When nearly recovered sufficiently to leave the hospital, she was seized somewhat suddenly with pain in the right side of the chest, darting upwards and downwards; inspection was difficult and painful, but there was no febrile reaction nor increased cough. No disease of the chest could be detected. The pain increased, and in about sixteen hours collapse set in, followed by death. On post-mortem examination, there were found some old pleuritic adhesions on the right side, and some scattered crude tubercles in the apices of both lungs, but nothing whatever that could apparently account for death. In the second case, the patient, a gentleman, suffered from alternations of obstinate constipation and diarrhœa, in addition to diabetes and phthisis. He had felt a burning pain in the pubic region for some days; five hours before death this became frightfully intense. It was moderated by firm pressure and an opiate injection. On post-mortem examination, the parts contiguous to the seat of pain presented not the slightest change. The lungs were tuberculous, and there were pleuritic adhesions. In the third case, the patient was suddenly seized with retention of urine and agonizing pain in the region of the bladder, rapidly followed by collapse and death.

Dr. EDWARD SMITH regretted that Dr. Cockle, in his paper, had made no advance in the pathology of the disease of diabetes. He had understood him to say that diabetes was a cause of consumption. For his own part, he should rather regard it a result of that disease. Out of the large number of cases of phthisis he was in the habit of seeing, diabetes was a very rare complication, and he believed that there was no causative connexion between diabetes and phthisis. The excessive thirst in diabetes was to be explained by the large elimination of fluid from the body, and a consequent desire on the part of the patient to replace that which was so rapidly passing away. The excess of urea which was usually found in diabetic urine he attributed to the highly nitrogenous diet on which patients suffering from this disease are usually fed, and also to the fact, that when a large amount of urine is daily passed, there is usually a greater than normal quantity of urea got rid of.

Dr. GIBB remarked that English pathologists were now going back to the views entertained by Prout, in regarding diabetes as caused by a derangement of the secondary assimilative processes. The late Dr. Todd held the same opinion. Dr. Gibb then related some experiments which he had performed some years ago. He gave a diabetic patient an emetic a few hours after a meal, and the ejected fluid was found to be intensely saccharine. To the same patient, after a meal, doses of nitric and hydrochloric acids were at different times administered one or two hours previous to the giving of the emetic. In each case no trace of sugar could be detected in the vomited matter, and he believed from this that the sugar-fermentation which was going on in the stomach was destroyed by the acids. These experiments supported the view that in diabetic patients a process of fermentation was carried on in the stomach.

Dr. SYMES THOMPSON said he was able to corroborate the statement of Dr. Gibb, that diabetes was regarded by the late Dr. Todd as originating in the stomach, and that it was the custom of that physician to prescribe in such cases large doses of the mineral acids. He (Dr. Thompson) had observed two or three cases in which symptoms presented themselves analogous to those described by the author, and in which sudden death had resulted. There was sudden cessation of the urinary symptoms, collapse, and death.

After an animated discussion, in which Dr. Leared and several other members took part, the meeting adjourned.

PATHOLOGICAL SOCIETY OF LONDON.

TUESDAY, JANUARY 7TH, 1862.

DR. COPLAND, PRESIDENT.

ANNUAL MEETING.—REPORT OF THE COUNCIL.

It has been the pleasing duty of the Council of the Pathological Society, in every year of its past existence, to report the increasing number of its members and the improved condition of its financial resources. The present year, happily, forms no exception to the rule in these important matters. The number of members which constitute the Society has never been so large as at the present moment. The funds of the Society were never in so sound and flourishing a condition.

The total receipts of the past year have amounted to £333 13*s.* 4*d.*, of which £30 11*s.* 3*d.* has been realized by the sale of "Transactions," and £2 16*s.* 1*d.* by dividend on funded property; leaving as the amount of subscriptions the sum of £300 6*s.* Of this, £26 5*s.* has been received as life subscriptions and as fees from non-resident members; which sum will, in accordance with the previous custom, be added to the Society's funded property.

The total expenditure for the year amounts to £301 5*s.* 3½*d.*; leaving a balance in the treasurer's hands of £160 14*s.* 8½*d.*, in part for investment, and in part for the general purposes of the Society, to be carried forward to the account of the current year.

It appears desirable, in connexion with the existence of an increasing balance, to remind the members of the necessity which exists for such a guarantee, especially to one class of their members; and to demonstrate that a prosperous exchequer is not an indication of unnecessary or surplus funds, but is a necessity to the existence of the Pathological Society. It may be remembered by many of the older members of the Society that during the earliest years of its existence the published "Transactions" were, as compared with the present, but small and meagre volumes. It was at that time resolved that medical men not resident within ten miles of the metropolitan Post-office should possess the privilege of membership for a single subscription of £2 2*s.*, and should moreover obtain for the small sum of £3 3*s.* more *a claim during life* to an annual copy of the Society's "Transactions." It is scarcely necessary to add that the improved and enlarged "Transactions" which have since been issued render this composition fee an exceedingly small one—much below the sum required by other societies for a similar privilege, and consequently a most advantageous expenditure on the part of our provincial adherents. Nevertheless, instead of raising the sum demanded from future non-resident members, the Council has determined that it is a wiser course to continue, its funds permitting, this liberal inducement to country members to compound for the "Transactions," and thus to aid in a material manner one of the great objects of the Society's existence—namely, the cultivation and promotion of pathological science. It will now be evident that, in order to sustain the yearly increasing claims on our "Transactions," a guarantee fund is necessary. That fund is steadily advancing.

The Council feels it to be its duty to allude briefly to a proposal which emanated, during the past year, from the Royal Medical and Chirurgical Society, for an amalgamation of the several Medical Societies of London. This subject received that consideration by the Council which its importance demanded. It was welcomed as an evidence of the respect and good feeling on the part of the elder Society, which are substantially evidenced by the permission it grants to the younger institution to hold its meetings in this place. Obstacles, however, appeared in the course of the discussion—it may almost be said negotiation—of the enterprise, not less to the action of the Pathological Society than to that of the Medical and Chirurgical Society itself. During the discussion, both of the principles and of the details involved in such a scheme, difficulties rather augmented than diminished. It was felt that while union in some form was highly desirable, it ceased to be so if freedom in action and perfect independence in matters financial should be sacrificed to it. As no way of reconciling these essential conditions appeared in the numerous and prolonged deliberations which took place, and as none was suggested by the Medical and Chirurgical Society, it was agreed that no further action could for the present be taken by the Pathological Society in reference to the matter.

It now only remains that the Council should express a sense of its deep obligation to the numerous gentlemen amongst its members, both resident and non-resident, who have taken a warm interest in the meetings of the past year, and have exhibited their valuable results of observation and investigation; and it feels assured, from the promise which the present session has already afforded, that the labours of the Society will be in the future no less useful and valuable than heretofore.

ANEURISM OF THE AORTA.

DR. BROADBENT exhibited this specimen, with several drawings. It would be remembered that this subject had been

discussed at a previous meeting, in which insufficient valves had been considered as contraindicating bleeding, or the treatment of Valsalva. A man came into hospital with symptoms of voice and breathing connected with physical signs of aneurism above the region of the heart, while the sounds of the heart indicated regurgitation. He was cupped to five ounces, with manifest improvement in pulse and respiration. Afterwards he was bled to eight ounces, with further marked relief. Some days after, six ounces of blood were extracted, with further benefit, the pain as well as symptoms being relieved; and shortly afterwards he was discharged, but kept under observation. At the end of a few weeks, however, he was readmitted, being much worse. He was leeched and had digitalis, a little improvement only resulting. He remained in the hospital for a month, and was then dismissed. He was again admitted four months afterwards (last March). He was now much worse; one of the ribs was absorbed, the heart displaced to the right, &c. He was at once bled to twelve ounces, with great relief, and took digitalis. On the 31st of March eight ounces were taken, with the same result. He was discharged in April, and readmitted in September last, two days after which he died from rupture of the aorta into the left pleural cavity.

Dr. CRISP observed that this case had borne bleeding well, notwithstanding the regurgitant valves—as he believed would be the case. He considered that the objection to bleeding was now carried to an unhappy extreme, and that reaction would take place.

Dr. SIBSON had watched this case for a long time. There were very marked signs of regurgitant disease. He was of opinion that the regurgitation prolonged the duration of life, mitigating the tension on the tumour. The pain had been very severe, corresponding to the observations of Dr. Green, of Dublin; and bleeding had been ordered only when the pain was intolerable. The relief was great, and followed in every instance by singularly good effect. He took large doses of opium also, which were of great use. He was not starved, but was placed on a dry diet, diminishing fluid as much as possible, so as to lessen the volume of the blood; and he enjoyed life, it might be said, for fifteen months under this treatment. Dr. Sibson entered on the statistics of a large number of cases of aneurism he had collected in museums, cases only to which a good history attached, comparing the results in the single case with the results thus collectively obtained, and at some length and detail.

Dr. PEACOCK remarked, on the subject of bleeding in cases of regurgitant valves, that he still held the impression that Valsalva's treatment was contraindicated in such cases. Dr. Sibson bled to relieve symptoms, and was justified, he thought, in doing so; it was not Valsalva's treatment. If one point was more settled in his mind than another, it was that lowering treatment was bad in deficient aortic valves.

Dr. COPLAND coincided with Dr. Peacock, but thought each case must be treated on its own merits.

Dr. CRISP reiterated his opinion. In all cases, he contended, of the spontaneous cure of aneurism, they were cured when blood was deficient.

Dr. PEACOCK and Dr. BRISTOWE had seen cases cured by coagulum, and in the reverse condition of the circulation.

Mr. HOLMES remarked that this case was not at all a case illustrating Valsalva's treatment.

DISEASE OF THE SUPRA-RENAL CAPSULES AND DISEASE OF THE SPINAL CORD.

Dr. BROADBENT showed this specimen from a woman aged twenty-three, under Dr. Chambers' care at St. Mary's Hospital. She had suddenly fallen down a month before, but there were no convulsions. Subsequently symptoms of fever occurred, and then she found the movements of the left foot and hand were impaired. This was her condition on her admission, with symptoms of chorea added. In three days she was delirious; her skin appeared to be slightly browned as if tanned by the sun's rays, to which, however, she had not been exposed. She died on the 9th ult. The post-mortem examination showed extensive disease of the supra-renal capsules, which appeared to be loaded with scrofulous matter, and there was a small tumour of the spinal cord in the lumbar region.

HYDATID TUMOUR OF THE LIVER.

Dr. MURCHISON presented a preparation from a girl aged seventeen, who was without symptoms until a month before death. These were the signs of acute pleurisy, with a depressed liver. Hectic set in, and she died. On opening the body, the right pleura was found filled with purulent fluid, with an immense number of hydatids of all sizes. The sac was found in the upper and posterior part of the liver, and it had burst into the pleura through the diaphragm. It was remarkable that no teeth could be found in the hydatid or fluid. Frerichs had remarked this to be the case with some collections in the liver. Of 189 cases of hydatid cysts which burst, 18 opened into the pleura. He called attention to operative measures for their treatment. Frerichs, allowing that spontaneous cases occur, says that most cysts which are large enough to be diagnosed during life, generally kill in one to four years; and he discusses tapping the cyst, injecting it, and, lastly, the opening of the tissues over the cyst when adherent to the abdominal walls, by means of caustic.

ANEURISM OF THE MIDDLE CEREBRAL ARTERY.

Dr. MURCHISON exhibited this specimen from a man aged twenty-four, who died suddenly from the bursting of the aneurism. The course of the effused blood was described. He was first seen when in a state of coma. He had been subject for some months to epileptic fits. He had fallen down suddenly eight hours before admission, after drinking spirits. The breathing became sterterous in the course of the case.

MEDULLARY DISEASE OF THE STOMACH.

Mr. F. ROBINSON showed this specimen, taken from a man aged thirty-nine, who was admitted with acute peritonitis. Much fluid subsequently accumulated, and seventeen pints were removed by tapping. Afterwards he vomited much, became emaciated, and died in two months after admission. Medullary cancer was found, affecting the pyloric end chiefly. The vomited matter had a strongly fecal odour, which appeared to him a remarkable circumstance.

OBSTETRICAL SOCIETY OF LONDON.

JANUARY 1st, 1862.

DR. TYLER SMITH, PRESIDENT.

THIS was the third annual meeting of the Society, and consequently there was a large attendance of the Fellows. Before proceeding to the proper business of the evening, the propriety of voting an Address of Condolence to her Majesty was considered.

The PRESIDENT observed, that the Obstetrical was not a royal or chartered Society, and, therefore, it might not have been proper to call a meeting for the purpose of voting an Address to her Majesty. The annual meeting, however, falls at a time when no body of Englishmen can assemble together without deploring the heavy loss which has been sustained by the death of that distinguished and good Prince whom all have revered as the husband of our Queen and the father of our future King. It has been thought, under these circumstances, that it would only be decorous and becoming to add our humble tribute to the stream of affectionate and dutiful sympathy flowing from the heart of the nation to the throne, and which we may hope to some extent to mitigate the sorrows of our beloved monarch.

Dr. OLDHAM spoke as follows:—Mr. President, I acquiesce in the observations you have made on the propriety of our offering an expression of condolence and sympathy with her Majesty under her present circumstances of sorrow and bereavement. I feel that it needs some cogent and imperious circumstance to move a body of scientific men from their usual quiet and unostentatious pursuits. But on the deplorable death of the Prince Consort I think that not only may the profession in the larger Royal Societies address the Queen, but that smaller bodies—like our own—may becomingly offer their tribute of sympathy and loyal devotion to their beloved Queen under her present overwhelming affliction. Indeed, I cannot hesitate to declare that there is not a member of this Society who is not eager to find some channel through which he may convey, as near to the Queen as he may, the earnest feelings in which he desires to participate in the sorrow which now afflicts and desolates her. It is not for me to delineate the characteristics of the Prince we have lost. They are known to all here; but if we wanted any additional reason to justify our Address, it would be found in the fact that he was associated with the science of this country, not only as being himself a cultivator of science, but as its illustrious and discriminating patron. I feel, however, that the fewer words I use the better, and shall

conclude by simply moving that the following Address be forwarded to the Right Hon. Sir George Grey for presentation to her Majesty:—

"*To the Queen's Most Excellent Majesty.*

"May it please your Majesty,—We, the President and Fellows of the Obstetrical Society of London, desire to express to your Majesty our feelings of profound sorrow at the afflicting calamity which has fallen upon your Majesty in the decease of his Royal Highness the Prince Consort, and to give utterance to our deep sense of the irreparable loss the country has sustained in the death of one whose high position and attainments were so constantly and so devotedly used for the advancement of the national welfare, and especially of the interests of education, science, and art.

"We sincerely beg to offer to your Majesty and every member of the Royal Family our most respectful sympathy and condolence upon the present unhappy occasion; and with feelings of the deepest loyalty and affection we earnestly hope that your Majesty may, under Providence, be blessed with tranquillity and resignation in this weighty affliction."

Dr. DRUITT said that he felt it an honour to be invited to second this resolution. It was scarcely necessary to add to the few touching and emphatic sentences in which it had been introduced by the President and Treasurer; yet it was one in which the fulness of every man's heart made it difficult to be silent. There were no members of the community so well able to appreciate that profound shock which fell upon us that sad Sunday morning as the members of the Obstetrical Society. They could testify to the intense, he might say the perilous, grief with which the news of this national calamity was received in many a sick chamber, and by many a worn and anxious invalid. Never before had been in our times so fully realized the truth that this English nation, with its diversities of rank, was in fact one large and united family; and that at this crisis especially, when there were threatenings from without, this universal sympathy of the whole English people with the grief of their Queen and her children, would show to the world that our loyalty was the symbol of that strength which belongs exclusively to those at peace amongst themselves. Representing, as the Obstetrical Society does, that portion of the great profession of medicine which is most intimately concerned with the family life of the nation, it was most proper that we should at this crisis offer to the Queen our respectful condolence under her great and irreparable loss.

The following gentlemen were proposed as candidates for admission into the Society:—George John Vine, F.R.C.S.E.; Malim Sharman, Esq.; John Clarke, Esq.; Thomas Thornley Brooke, Esq.; and James Stewart Lamb, M.D.

Dr. GRAILY HEWITT exhibited a drawing of a

CASE OF SPINA BIFIDA

which had come under his observation. The deficiency existed in the centre of the sacral region, where a tumour, soft and containing fluid, was situated, measuring an inch and a half across. The skin covering it was red and inflamed, and slightly ulcerated at one point. The child—a female—died when twelve days old of convulsions. Birth took place at the full time. The placenta was adherent, and had to be removed by the hand upwards of two hours after delivery of the child. The mother had had a fall two months before. It was surmised by the author that the defective development was connected with interference with nutrition consequent on the abnormal condition of the placenta. The case seemed at first a promising one as regarded the effect of treatment, the tumour being small and situated low down; but when six days old the infant ceased to take the breast properly, and convulsions soon afterwards set in.

The Auditors' Report was next read:—

"The auditors appointed to examine the accounts of the Society beg to report to this meeting that they have examined the same. They find that the expenditure of the Society for the year ending Dec. 28th, 1861, amounted to £312 3*s.* 3*d.*; and that the receipts during the same period amounted to £493 5*s.* 1*d.*; while the balance in the hands of the treasurer in January, 1861, was £291 5*s.* 0*d.* The present state of the funds of the Society is as follows: the balance in the treasurer's hands, after paying all expenses for the year 1861, amounts to £472 6*s.* 10*d.* (Signed)

"W. TYLER SMITH.
A. MEADOWS.
THOS. E. EDWARDS.
GRAILY HEWITT.
T. H. TANNER.

"December 28th, 1861."

The result of the ballot for the election of the officers of the Society was then read. The following are the names of the gentlemen elected:—*Honorary President:* Sir Charles Locock, Bart., M.D. *President:* Dr. Tyler Smith. *Vice-Presidents:* Dr. Babington, Dr. J. Hall Davis, Dr. Druitt, Mr. R. Dunn, Dr. Swayne (Bristol), Dr. R. Uvedale West (Alford, Lincoln). *Treasurer:* Dr. Oldham. *Hon. Secretaries:* Dr. Graily Hewitt, Dr. Tanner. *Other Members of Council:* Dr. Barnes, Dr. Bloxam, Dr. Chowne, Dr. Chas. Drage (Hatfield), Dr. Gream, Mr. Thos. F. Grimsdale (Liverpool), Mr. Francis S. Haden, Mr. Robert Hardy (Hull), Dr. Harley, Mr. Isaac Harrinson (Reading), Dr. J. B. Hicks, Mr. Hird, Mr. Henry James, Dr. Langmore, Dr. A. Meadows, Mr. Samuel Smith (Leeds), Mr. Frederick Symonds (Oxford), Dr. Alfred J. Tapson.

NORTH LONDON MEDICAL SOCIETY.

MR. COUSINS read a paper

ON THE MODE OF DEVELOPMENT OF A MUSICAL CHARACTER IN SOUNDS PERCEIVED BY AUSCULTATION.

As instances of such sounds, Mr. Cousins adverted to the silk-like pericardial friction sound; the fully musical tone of some mitral murmurs; the intensely musical hum often found in chlorosis; the identification of sonorous and sibilant rhonchus as accidental phases commonly of one another; and explained the causes of the exchange of the musical tone of early pericardial inflammation for the rough friction-sound heard at a later period; the infrequency of a musical character in analogous conditions, as in pleurisy, was likewise explained. The nature of the tissues engaged in the production of the sounds forbade any belief that the musical sonoreity resulted from fibrillar or membranous vibration, such as was commonly, though erroneously, thought essential to the production of the phenomenon; and the author therefore inquired experimentally whether the vibration of a sonorous body was alone capable of producing such modulations as should excite the idea of musical tone in the ear.

Remembering first, then, that the shock resulting from the impulsive collision of any two bodies whatsoever originates waves, which are propagated in right lines through the surrounding medium; that such shocks thus reaching the ear give rise to the idea of sound—in other words, a sound results from the ear being reached by a single wave, communicating its impulse to the auditory nerve; secondly, that several shocks swiftly following each other, as when produced by a vibratory instrument, occasion a so called musical note, and that such note is high or low in the scale according to the frequency of the shocks in a given space of time; Savart counting 14 impulses in the second as producing the deepest tone recognisable by the human ear, whilst the character of a note of 48,000 impulses per second was still distinctly appreciable.

It occurred to the author, therefore, that any single non-musical sound rhythmically repeated would afford the sensation of a musical tone, and that such repetition might be obtained either by repetition of the impulse occasioning such sound, or by repetition of such sound by echoing surfaces aptly disposed. Thus:

To examine the second of these conditions—viz., the result of multiplying the echoes of the stroke-sound resulting from the shock of two non-vibrating bodies:—Drawing a circle of small radius—say 6 (or 60) feet—round the station of the observer, at the central point of which also a non-musical sound was produced by the stroke of a hammer on a stone, a series of echoing surfaces (park palings or iron railings, &c.) were disposed at equal distances along a line tangential to the circle; therefore the distance travelled by the wave of sound as it reached the ear, reflected by each point in succession, increased as twice the secant of the angle made by its path and the radius perpendicular to the lines of points.

In the second experiment, the posts were so disposed along the tangential line that the secants themselves varied by an arithmetical difference.

It resulted that in the first experiment there was perceived the idea of a clear and distinct musical note, upon which quickly ensued a cadence in which the tone ran swiftly and more swiftly downwards in the musical scale: the monosyllable "*thyew*," quickly pronounced with an explosive utterance, would not ill represent the effect produced.

In the second experiment a truly musical sound of startling brilliancy was produced.

When the echoing points were carelessly disposed, a coarse, rough, or grating, murmur-like sound resulted.

Reverting to the first of these forms of experiment, he obtained similar results from repeating like stroke-sounds with equable time-intervals: these were mainly produced by a grooved surface of steel or pasteboard, over which a lamina of watch-spring or a strip of a quill was made to course at right angles, with a sharp stroke.

It resulted from these experiments that

(1) A sound *per se* non-musical echoed several (14—*n*) times per second, or several like sounds repeated with similar frequency gave rise to the aural perception of a repetition of stroke-sounds, as was to be expected; but

(2) If the frequency of the repetitions exceeded 14 (20 e.g.) in a second, they ceased to impress the mind with the idea of a shock repeated *n* times, and in lieu thereof,

(3) Provided the intervals were equable, the shocks were not heard, but a musical note;

(4) Provided the intervals varied in length according to a regular serially pregressing rate of increase or decrease, a swiftly varying sound, impressing the ear with the idea of a rapidly *slurred* movement running along the musical scale, was perceived;

(5) Provided no regularity of interval, or no serial variation of interval occurred,—if the intervals were constantly varying, or if at uncertain distances additional repetitions of stroke-sound or of echo occurred,—the sensation of roughness was communicated, free from musicality.

(6) In one experiment with an alternating difference of interval, where *fewer than 4 successive strokes at* ONE *interval occurred*, the resulting perception was that of a jolting or rough, not musical, character;

(7) But where 4 such strokes alternated with other 4 of another equally-spaced set, a sensation of alternating musical notes was distinctly heard, occasioning a singular impression on the ear.

The author then asked the indulgence of the Society for passing to considerations not strictly within the range of experiment. Let us frame an analogy between light and sound as influencing the organs of special sense peculiar to each. If colour results from the reception by the retina of impressions at any moment made at equable distances, as, for instance, by rays of light reflected from grooved surfaces, we may compare beauty of aural perception, or musical note, with beauty of ocular perception or colour.

We have, therefore, in the next place, to compare the organs of perception for sight and sound. Where can we find a counterpart to the retina in its capacity of receiving simultaneously several equi-distant impressions and transmitting an harmonious idea as its result to the brain? Before we approach this question, let us review the structures in the ear which act as conducting media, so far as is required for our purpose. First, we read everywhere that at the bottom of the external meatus (which certainly acts as the collecting and concentrating sound-receiver) is the membrana tympani—"trommenfell"—"drum" of the ear; next, "Das trommenfell wird durch die schallschwingungen welche dasselbe berühren in gleiche schwingungen versetzt, wie eine jede ausgespannte membran."

I do not believe that the membrana tympani vibrates at all. If its function were to vibrate in accord with the tones it received, its preparation for such vibration must have preceded the efficient exercise of its function. This is plain as daylight. If such were its function, the delicate *sound-vibrations* (not undulations of transmission) of a membrane stretched at its circumference would culminate at its centre. Yet here the malleus has an attachment! and on the opposed surface is disposed the bitter and tenacious cerumen (bitter, no doubt, for the reason usually assigned—of deterring insects from taking up their residence in this warm nook of shelter); *tenacious*, why? To *deaden* all vibration.

What functions are we, therefore, to assign to the membrana tympani? Two, principally:—1st, as a diaphragm, not for cutting off impulses, but collecting them so that all the *sound-stroke* received over its area should be converged to its centre, and thence transmitted by the ossicula to the foramen ovale; whilst, 2ndly, undulations should traverse its substance, without setting it into vibration, to reach the tympanic cavity, and thence the foramen rotundum. It thus accomplishes the duty of collecting mechanically the stroke from the cylinder of air and converging it, aggregated in strength, to the long lever of the solid instrument by which it is to be swiftly and exactly conveyed. How? whither? Not by undulation through the ossicles, but by mechanical movement of one ossicle on the other—to the internal ear.

The stroke received by the stapes in the direction of its length is given from it to the fluid of the internal ear in the direction of the radii of its base. Directing our attention to the upper lamina of the cochlea alone, waves originated by the stapes progress along lines *nearly* parallel to the foramen ovale; the taper form of the spiral canal of the cochlea by reflection from its converging walls preserves the strength and the dimensions of the wave in its onward advance towards the apex; reflected thus towards the centre of the scala, the wave impinges upon the sentient extremity of a nerve-filament. The disposition of these at right angles to the modiolus must be borne in mind.

"Uber die Bedeutung der Schneckenwindungen ist man im Dunkeln." Now we have traced the wave along its centre. Let us suppose another and another wave has been received at the foramen ovale, and is following the first; now let the sentient nerve-endings along the centre of the scala receive, *simultaneously*, similar impressions at not less than four equable distances: I believe that a musical note is the resultant, of which alone the brain takes cognisance. The sentient apparatus is in alternating rest and excitement, in regular order of time and space with, so to speak, a certain expectant attitude for the need of its function. Hence an equable call for and distribution of its nutrition, the result (to repeat) of its equably rhythmical stimulation; and hence a sense of pleasure; and in this pleasure consists musical perception of sonoreity.

Need I say that, on the converse, you obtain the *rationale* of the fatigue, distress, pain, consequent on discord—of the superior delight resulting from pure harmonies—of a yet more interesting fact, well known to the votaries of music, that tones in harmony are more productive of pleasure in the ratio of their distances from one another in the scale—e. g., tenths more than octaves, fifths more than thirds—of, also, the fatigue attending monotony, &c.

To return, then, to the question originally before us. No longer searching for a body capable of being thrown into sonorous vibrations as the cause of many musical sounds heard within the structures of the human body, we are enabled, by the preceding study of the nature of tone as a character of sounds, to perceive why certain friction-sounds, for instance, are not rough, not jolting, not distinctly made up of successive strokes, but present themselves with the character of simple sonorous phenomena, having lost the distinctiveness of the parts of which they truly consist. The clear "whiff"-like sound, the "silk"-like sound of early pericardial inflammation, is a good example, and it is clinically instructive to watch its exchange for the rough friction-sound of a later stage.

Occasionally in sonorous rhonchus, and rarely in pleural friction-sound, remarkable instances occur, which are easily accounted for. Let two smooth surfaces, susceptible of exact application to one another, move upon one another (such is the pleura pulmonalis on the pleura costalis); let this movement be retarded by the lubricating fluid between having acquired a certain degree of adhesiveness, or in cases where one or both of the bodies in contact admit of a certain but limited degree of displacement of their superficial portions, whilst pressure exists sufficient to impede slightly, but not totally, the gliding movement; a steady onward gliding movement displaces the surfaces until the elastic tension becomes exalted sufficiently to overcome the disturbing influence, and to restore the surface to its normal position. Again and again the effort is renewed: if too seldom to produce musicality, the jerks affect the ear as separate shocks; if irregularly, a rough or grating sound arises; if regularly and of sufficient frequency, the shocks cease to be recognised, and in their stead a loud thrum is discerned. You may imitate it by gliding with sufficient pressure to exclude air a damp finger over a piece of marble, a polished wood table, a window pane, or one wet finger over the surface of another. A slug crawling over a window has been known to develop it. Vibration has no part in its production; it is the result of multiplied impulses rhythmically repeated on the ear.

Reviews and Notices of Books.

The Influence of Tropical Climates in Producing the Acute Endemic Diseases of Europeans. By Sir J. RANALD MARTIN, C.B., F.R.S. London: John Churchill.

SCARCE six years have elapsed since the first edition of this interesting and practical work was presented to the profession. That such a work was needed, that it contained much that

was valuable to the civil as well as to the military medical practitioner, and that it has been appreciated, the appearance of this second edition is a sufficient guarantee. Truly does the author write that "the present edition is not produced as a mere reprint; on the contrary, it is hoped that additions and alterations have been made which may be regarded as improvements." Six years' additional careful study and research—six years' more experience of the effects of tropical climates on the European constitution, and of the treatment in this country of the diseases thereby engendered—have enabled the author to revise the first edition of his work most effectually, and to produce the present volume, with its alterations and improvements, in a manner, we feel sure, as satisfactory to himself as it will be acceptable to the profession.

It is not our purpose to enter into any minute examination of the contents of this edition; but we would urge the attention of our medical brethren to the consideration and examination of the very many interesting, instructive, nay, vital points therein treated; not as regards practical medicine alone, *but especially as relates to sanitary measures and preventive medicine.* The work itself lays claim to some extent to the character of a systematic treatise on the subject entertained, and no one can open a chapter in the volume without being struck with the comprehensive, clear, and masterly manner in which each section is examined.

The various points embraced would afford materials for a much larger work, but Sir Ranald has acted judiciously in confining himself to the original character of the publication; for, as the work is eminently essential to every military and naval medical man, so the bulk of the volume must always be a consideration with those who, on service, have generally but little spare room for literature in their bullock-trunks or sea-chests. It is at the same time satisfactory to find that all the book contains is practically useful and instructive; indeed, it contains much information and advice that cannot be found in any work on medicine of the present day.

Part I. treats of Climate and Medical Statistics; and is full of the most important considerations. This chapter has one great feature, which to some extent pervades the whole work: it is so written that the non-professional inquirer may read it with much pleasure, and, we may add, with much advantage. So numerous are the points of general importance bearing on public health therein considered, that we feel it would be highly advantageous if the principles laid down by Sir Ranald Martin on the management of soldiers were somewhat better understood by the executive of our naval and military departments.

Part II. is devoted to the momentous question of the Prevention of Disease. We cannot speak too highly of the contents of this chapter. Here we have the most thorough considerations on the means—we might almost say, on the *certainty*—of preserving our soldiers' lives in the tropics. Every important point is most carefully laid before us, and every precaution is noted to secure for the European an immunity from climateric and other injurious influences such as soldiers too often unnecessarily and too frequently fatally, have been exposed to in the East and West Indies.

Part III. embraces the discussion of all Acute Tropical Diseases and their Treatment. Remittent and Intermittent Fever, Coup-de-Soleil, Dysentery, Diseases of the Liver and Spleen, Cholera, and the other common affections of India, are each fully entered into in this section. Alone, this chapter would form a volume of great value and interest to the young army surgeon about to join his regiment in the East; for the information contained in the observations by the author is the result of a fair life-time passed in that country, and of an experience of the acute diseases of that climate of which few men have had a larger share.

To the practitioner at home, the concluding chapter (Part IV.) of this work will be most interesting. It is entirely devoted to the consideration of the various and often complicated conditions from which so many persons suffer who have passed any share of their lives in India, and for the alleviation of which they require on their arrival in this country the physician's most watchful care. Those who have had to deal with some of the sad wrecks of former healthy and robust constitutions, in Europeans invalided to England after a long and useful public career abroad, and have experienced the difficulties and disappointments in the treatment of such cases, will peruse the observations of Sir R. Martin with great advantage, and glean from his experience many facts of importance; for few men, if any, in London have seen so much of the Indianized European constitution—generally a constitution worn out, comparatively early in life, by continued illness, or rendered prematurely old by long exposure and hard work.

We recommend the work to every medical practitioner. We feel satisfied that the interest its perusal will create will only be qualified by the fund of information and many subjects for reflection it will furnish to the reader.

Practical Medical Precepts for Plain People. By ALFRED FLEISCHMANN. London: Davies.

THIS neatly printed sheet is calculated to prove very useful in sickness or cases of accident. Its directions are simply and clearly expressed, and some of the sanitary hints are worthy attention at all times. Many a country practitioner especially would be glad if his patient or the nurse possessed the information this sheet affords; and a country clergyman would be doing good service to his cottage parishioners by distributing it amongst them, which its low price would enable him to do at a trifling expense.

New Inventions

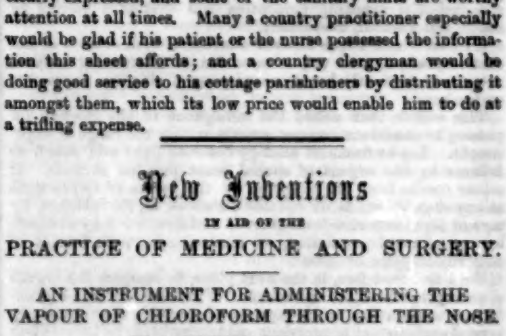
IN AID OF THE

PRACTICE OF MEDICINE AND SURGERY.

AN INSTRUMENT FOR ADMINISTERING THE VAPOUR OF CHLOROFORM THROUGH THE NOSE.

BY A. COLEMAN, ESQ., M.R.C.S.,
DENTAL SURGEON TO THE METROPOLITAN FREE HOSPITAL.

THE difficulty of keeping up the anæsthetic effects of chloroform in operations on the mouth induced Dr. Richardson to adopt the ingenious plan of administering this agent through the nose. The instrument here figured is one designed by Mr. Coleman for this purpose.



It consists, firstly, of that portion of Dr. Snow's portable apparatus which contains the bibulous paper to be saturated with chloroform; to this, an elastic tube, about ten inches long and of the same diameter as the instrument, is fitted, in the same simple manner as the face-piece of Dr. Snow. In the brass cap at the further extremity of the tube, a valve, opening

outwards, is inserted. To this cap also is attached the nose-piece—a silver tube flattened on its upper surface, and having soldered into its end, at a right angle, two smaller tubes of an oval form; these converge slightly towards each other at their extremities, and by means of a slide the distance between them may be diminished or increased. Just below the open extremity of the instrument, where the air enters and the chloroform is introduced, an elastic indiarubber bottle is connected, having a valve at each extremity opening towards the tube.

In using the instrument the patient may be brought under the influence of chloroform with the face-piece attached in the usual way; when the patient is sufficiently insensible, the face-piece is removed, and the tube with the nose-piece substituted, the smaller tubes of the latter being inserted into the nostrils. In consequence of the nostril-tubes being made to approximate, they can be adapted for persons of different ages, and, when inserted, by closing them the nose-piece is held in its proper place. It having been found, in some cases, that when the mouth is open the full effects of the chloroform cannot be kept up, the indiarubber bottle has been added, to enable the administrator to force a stream of air through the instrument into the patient's nose: by placing the thumb on the open extremity and compressing the bottle in the palm of the same hand, this object is readily accomplished. By simply closing the opening with the thumb, the action of the instrument is immediately suspended; by partially closing it, the effects are lessened. The valve in the tube prevents the return of air which has been respired, which escapes at the patient's mouth.

The design has been skilfully carried out by Messrs. Ferguson, of Giltspur-street.

PHYSIOLOGICAL CHEMISTRY AND THE "MEDICO-CHIRURGICAL REVIEW."

To the Editor of THE LANCET.

SIR,—Having paid a good deal of attention to the subject of physiological chemistry, I was glad to see that the *Medico-Chirurgical Review*, in its October number, contained an article on this subject, professing to be a review of Dr. Day's recent work. The reviews in this journal used frequently to be essays on the subject under discussion, rather than mere critiques, in the ordinary sense of the word; and I took up the article in question in the hope of deriving some useful information from it. In this hope I have been grievously disappointed, and the article is so different in its character from those which the *Review* formerly contained that I have taken the trouble to analyze it with some care, and I beg to send you my results.

In the first place, the article contains many phrases which are unintelligible, and many passages which are written in so execrable a style and taste that it is surprising they should have been admitted into any respectable journal. Secondly, it displays a great ignorance on the part of its writer of the ordinary literature of the subject. And thirdly, in more instances than one, it undoubtedly misrepresents the views and statements of the author whose book is made the subject of review.

I shall endeavour briefly to substantiate each of these points by one or two illustrations.

1. Can any of your readers tell me what is meant "simply by an ideal though practicable standard" which would leave a book "at a disadvantage;" or how the material of a work is to be "reproduced in a fluid form;" or what is the interpretation of such phrases as "sprung a leak on the word *organic*," or "all mediation towards the insight into the rational composition of albuminous bodies"? How can a book be better or "worse by reason of the exhibition of its greatest errors"? or how can a man "deceive himself and others by the effete dogma of biliousness"? What could the editor have been thinking of when he admitted into his journal so puerile a sentence as the following—"That glycine, sarkosine, and leucine should find themselves classed among the non-volatile alkaloids will no doubt cause considerable astonishment to these amido acids, particularly when they consider," &c.; or a long paragraph a little further on, teeming with "brushwood," "savoury fruit on heavy branches," "bushes of fragrant flowers to refresh our senses"? He must surely have engaged a special reviewer to contribute "comic chemistry with floral illustrations."

2. When the reviewer objects (p. 412) to the division of the fatty acids into the *volatile* and the *solid*; when he states that "the incongruity of this arrangement is very striking," that "the man of the laboratory" would never adopt it, and that he "does not remember to have seen it before,"—he can hardly be aware that Lehmann has adopted this arrangement, and that both Gorup-Besanez and Hoppe (the authors of the two best works on the analysis of the fluids and solids of the animal body) make the volatile acids a special class, notwithstanding his dictum that "relative volatility is no principle of classification."

When he tells us (p. 415) that he has "never heard of haloid bases," he is not aware that this admission shows that he is unacquainted with the best German writers on Physiological Chemistry and Physiology, such as Gorup-Besanez, Lehmann, Fick, &c.

Has he not forgotten himself when he tells us (p. 416) that "the term *resinous* is generally applied to substances which do not crystallize under any circumstances"? Let me quote for his benefit two lines from Prof. Gregory's Handbook, p. 347: "The resins as a class are acid bodies. ..... They dissolve in alcohol, and often crystallize from that solvent."

When he tells us that Dr. Day's "classification of uric acid is proved to be faulty by the usage of other authors," he must have overlooked the fact that it is precisely the same arrangement as is adopted by Gorup-Besanez, Lehmann, Frey, &c.

He would hardly have ventured on the bold assertion (p. 426) that "Schmidt's mode of analyzing blood is unreliable and unfeasible," and that he "thought it had by this time ceased to have any claim for being entitled a chemical proceeding," if he had known that Hoppe had recently (1858) expressed the following opinion:—"The method which C. Schmidt followed in his numerous analyses of the blood is irreproachable, and consequently all these analyses possess a permanent value."

I might give several other illustrations of similar ignorance, but these are probably sufficient to prove my case.

3. The reviewer observes (p. 419) that "it would puzzle the author, no doubt, were he called upon to obtain sarkosine by boiling, as he advises, creatine with *baryta water*." I cannot find in Dr. Day's book any *advice* regarding the mode of obtaining this substance; but if the reviewer had turned to the only paragraph devoted to sarkosine, he might have read that it "is only known as a product of the decomposition of creatine when acted on by *caustic baryta*."

At page 101, "we were utterly amazed," says the reviewer, "to find that the author really adhered to proteine." I find, on referring to the page indicated, that Dr. Day retains the term *proteine-compounds* as a convenient phrase for a definite class of compounds, precisely in the same manner and in the same sense as Strecker, Müller, Lehmann, Frey, Bence Jones, and Hofmann have done. It is difficult to believe, but it is nevertheless true, that the reviewer has founded his assertion upon the statement made by the author, that "great doubt has been thrown on Mulder's proteine-theory." If Dr. Day were to state, as he would be almost warranted in doing, that "great doubt had been thrown on the reviewer's accuracy and honesty," how would even the reviewer himself interpret the expression? Yet the two sentences are precisely equivalent.

I have no wish either to praise or to condemn Dr. Day's book; but I do not think that the criticism of the *Medico-Chirurgical* reviewer is of a character to influence any claims it may have on the consideration of the profession, or to advance our knowledge of physiological chemistry.

I am, sir, your obedient servant,

A FELLOW OF THE COLLEGE OF PHYSICIANS.

January, 1862.

P.S.—I see that the January number contains a page (page 223) entirely devoted to analyses made by Schmidt, on precisely the same plan as those which were denounced in the October number as not having "any claim for being called a chemical proceeding." Does the Editor intend to hold by his October or his January view?

WHOLESOME ADVICE.—"Generally speaking," says the *Siècle*, "during winter, apartments are too much heated. The temperature in them ought not to exceed 15° Centigrade (59° Fahrenheit); and even in periods of great cold, scientific men declare that 12° or 14° had better not be exceeded. In the wards of hospitals, and in the chambers of the sick, care is taken not to have greater heat than 15°. Clerks in offices, and other persons of sedentary occupations, when the rooms in which they sit are too much heated, are liable to cerebral congestion and to pulmonary complaints. In bedrooms, and particularly those of children, the temperature ought to be maintained rather low; it is even prudent only rarely to make fires in them, especially during the night. In addition to keeping up only a moderate temperature, the windows of all rooms, whatever the weather, ought to be opened for a time every day, so as to renew the air."

THE LANCET.

LONDON: SATURDAY, JANUARY 11, 1862.

UNTIL the date of a very decided demonstration initiated by this journal, the great majority of the life insurance offices were in the habit of applying to members of the medical profession for gratuitous advice. Presuming upon a benevolence which the world knows only too well may always be relied upon when humanity suffers, these thrifty commercial companies had the assurance to class themselves amongst our poor governesses and other destitute clients, astutely filching valuable professional opinions in order to increase their own profits. Such a practice was literally and simply a fraud upon charity, and a grievous wrong to the medical profession. It is vain to urge that a practitioner was at liberty to refuse his advice. It is rarely that a medical man can take this course without in some manner compromising his professional character or interests. Let us suppose that the companies had succeeded, by dint of their powerful influence, fortified as it was by their insidious appeals to the presumed selfish instincts of the public, in establishing the claim to gratuitous advice upon the basis of general custom. Invidious indeed would have been the position of that practitioner who should, by withholding his opinion, have defeated the object of his friend and patient. At the commencement of the movement, certain companies were by no means scrupulous in placing medical practitioners under a social terrorism of this kind. If a policy were declined, the private medical adviser not unfrequently found that coolness and distrust sprang up towards him on the part of his patient.

It must always be a serious matter to interpose any obstacle or difficulty in the way of effecting a provision for a family so valuable as a life policy. The man who has been disappointed in an object so dear as this will be apt to visit with his displeasure anyone whom he may suspect of having been instrumental in thwarting his intentions.

The medical attendant, sympathizing, as he most commonly does, in the feelings of the family, has in all cases a most painful task to perform when he finds himself unable to promote the wishes of the proposer by giving a favourable report. In the case of the health of the proposer disqualifying him to effect an insurance, the medical friend would too gladly escape from the unpleasant duty of pronouncing an opinion that would be fatal to the end in view. And these are exactly the cases in which it is of the highest importance to the offices to have the benefit of the experience and advice of the private medical attendant.

It is hardly necessary at the present day, when the decision of the profession has been so largely and so emphatically approved by the public, to ask whether it is reconcileable to justice or expediency to exact from the medical practitioner a essional opinion without fee, the giving of which is, at any rate, painful to him, which may be the occasion of pecuniary loss to him, and which is certainly of so much value to the office that it takes infinite trouble to extort it. If it be contended—as some officials of secondary authority and questionable intelligence have contended—that the business of life assurance can be safely carried on without the medical selection of lives, we can only say—let it be tried. If it be openly avowed by a particular company that it dispenses with all medical assistance other than that afforded by their special medical officer, an intelligible position is assumed. The medical profession will have no cause of complaint. The validity of the position so taken up is a matter that would concern the company, the policy-holders, and the public; but from the moment that the medical adviser of the proposer is called in consultation, in opposition it may be to his own desire and to the interest of his client, a widely different case arises. It is at once acknowledged that the stability of the office, involving of course the safety of every policy-holder, is concerned. It follows as a logical sequence that the advice of the private medical attendant is exactly similar in kind, and fulfils the same purpose, as do the examination and report of the company's own medical officer. As the company obtains the opinion of its medical adviser by paying for it, so should it pay for that supplementary medical information which it occasionally finds indispensable. In this transaction, the company which applies to the private medical attendant for a "confidential" opinion, which opinion is sought for the express purpose of protecting itself, employs that private medical attendant *pro hâc vice* in the same capacity as it employs its standing physician or surgeon. Nothing can be more absurd or untenable than the proposition, that when a company sends a long string of questions to a professional man, every one of which demands an exercise of professional skill from the person addressed, and asks for a confidential reply, which may be prejudicial to the proposer, the transaction is entirely a private one between the proposer and his medical attendant. Upon this point there is now no need to dwell. Judgment has been given by the public in favour of the medical profession. Not that this judgment has been given on any partial grounds. The result of experience and of the increased information upon this question which has been gained during several years of discussion, has been to prove that the question is essentially and above all a public one—a question which lies at the root of the stability of the entire system of life assurance. A deep conviction has taken possession of the public mind that no policy would be safe, and that the practice of mutual assurance of lives must be abandoned, unless the counsel of the medical body be fairly and honourably taken. It is on this broad and unassailable ground that the decision has been given.

So distinct and unequivocal is the judgment of the public upon that great question which has been so long agitated in this journal, that there are now few offices that can pretend to a high position in the confidence of the commercial world that have not frankly conceded the point, and which do not now, when they call the proposer's medical attendant into consultation, regard him as their own adviser, and pay him the usual professional honorarium. The sagacity of the public has discerned that the stability of an office bears a very close relation to the skill and care exercised in the selection of lives, and the rejection of unsound ones. A man with a clean bill of health, and enjoying the full expectation of life, will instinctively shun those offices which are known to snatch a dangerous saving by running the risk of accepting lives not certified as sound on complete medical information. Such a proposing assurer will not care to determine whether the office or the proposer ought to pay the medical fees. It is enough for him

to know that, not being paid, bad lives must necessarily be taken, and that, if he enters such an office, his own policy will be deteriorated in value, if not altogether destroyed by the excess of claims. It is known that some offices have had bitter experiences of this penny-wise-and-pound-foolish economy. The instances are numerous in which repudiating offices have accepted bad business, and lost good business, through this narrow policy. In many cases a guinea would have elicited a fact or an opinion from a private medical attendant which would have saved a speedy claim of hundreds of pounds. Such instances are within our own knowledge. But this is not the worst. For, as before observed, the office that is known to be exposed to the risk of taking bad lives is sure to be shunned by the good ones. The day of failure and of retribution will overtake them. It cannot be too sedulously borne in mind that the indiscreet admission of one bad life may entirely absorb the profits of many good ones.

We may look back with unalloyed satisfaction upon the change of opinion and of practice manifested amongst the leading offices since we first advocated the principle that justice to the medical profession was essential to the soundness of the practice of life assurance. With large numbers of the more prudent classes, when in search of an insurance office, it has become a leading question: does the office pay the medical advisers? This is a test that will grow more and more into favour, as its importance shall be more fully understood. It may now be said that whilst many offices of the oldest standing and highest reputation are anxious to consult the private professional man, and, of course, to pay the usual honorarium, not a single new office that can pretend to be clear of speculative tendencies, and safe from the perils of speculative business, has been established, which has not made a prominent point of securing the co-operation of the medical profession.

A considerable period having elapsed since our last discussion of this important subject, we think it will be useful to take a survey of the gain that has been achieved in the interval. We therefore propose to make a systematic examination into the actual practice of every life assurance office, as regards its means of selecting lives. We shall be especially gratified at every opportunity of announcing that an office of respectability recognises the expediency of consulting and remunerating the private medical referee of the proposer. By the wide acceptation of the principle by other offices, stimulated by example and urged on by competition, life assurance has been largely extended, and rests upon a more secure because a more scientific foundation. It is our intention to publish from time to time a list of those assurance offices which act justly and liberally towards medical practitioners.

TEN years ago a surgeon in general practice in London, had, from circumstances, his attention forcibly directed to the destitute condition of many of his brethren, and the widows and orphans of those who had succumbed in the strife to obtain a competence. He resolved to do something to mitigate such distress. With an undaunted spirit he commenced his arduous labours. Undismayed by the magnitude of the task which he was bent upon performing, he threw his whole energies into the work. "The cold shade" of the rich and selfish corporations did not chill his ardour. A few friends rallied round him, and the result has been the erection of a magnificent college, the foundation of a most excellent school, and the establishment of houses of refuge for the decayed members of the profession. The man who has conferred this immense boon upon the profession is JOHN PROPERT. All honour to his unpaid and ceaseless labours in the cause of humanity. Is such a man to be left without the sympathy and support of any member of our profession who can afford his annual guinea to the Royal Medical College? There are some facts more difficult of belief than the strangest fictions, and never was the aphorism that "Truth is stranger than fiction" more forcibly exemplified than in the case before us. There are twelve thousand members of our profession who have as yet subscribed not a single guinea to JOHN PROPERT'S college. We place this fact on record not as a reflection upon the benevolence of our brethren, but as a striking instance of the necessity of appealing directly to their instinct and their judgment. No one has ever dared even to insinuate that members of the medical profession are deficient in acts of charity. If ever such an insinuation were made, it would be triumphantly met by the occurrences of our daily experience. No men can effect such an amount of gratuitous assistance to the poor and suffering as the members of the medical profession; but charity to be consistent "should begin at home."

There is a claim upon our brethren stronger even than that which presents itself to them in the shape of sickness and suffering amongst the public. That claim emanates from the cry for succour raised by the destitute members of our profession. Many a man who has started in life with fair prospects and with every hope of success, has been prostrated by illness or overwork in the very zenith of his career. To such the Royal Medical College offers an asylum. Many others have reached old age without having succeeded in obtaining any means of support in their declining years. To these the Medical College is open. Others, again, are unable, "with all their thrift," to give to their children such an education as is befitting the scions of a learned profession. On these the school of the Royal Medical College confers the inestimable benefit of a first-rate education at the lowest possible charge. The orphan is clothed, educated, and made fit for an honourable position in life, by the same agency. The widow, deprived by the death of her husband of the comforts and luxuries to which she had been accustomed, finds a home and support not unworthy of a gentlewoman in the institution at Epsom.

Surely these facts can never have been contemplated by the twelve thousand to whom we have alluded; if they have been, and support is withheld, their apathy is inexplicable.

It has been found necessary and desirable to enlarge the sphere of usefulness of the Royal Medical College. Its founder has made a special appeal to his professional brethren for support to enable him to carry out this praiseworthy object. That that appeal may meet with a generous response is our fervent hope.

THE resignation during the early part of the just vanished year of two senior medical officers of important metropolitan hospitals gave us hopes that some almost fossil (not to speak disrespectfully) specimens of *medici et chirurgi*, who still potter about certain wards and vestibules, might follow the commendable example set before them. As yet our hopes remain un-

fulfilled. We could now, as then, point to more than one public institution and medical school at which

"Superfluous lags the veteran on the stage,"

forgetful as well of his own dignity and reputation, as of the rights and the welfare of others. Now if such men will not accept hints, they must listen to plainer language. They must be told, in the words of BACON, that it is a strange desire to seek power and to love liberty—to seek power over others, and to lose power over a man's self. "Nay," says the great writer in that splendid essay upon "Great Place," "though often "retire men cannot when they would, neither will they when "it were reason; but are impatient of privateness even in age "and sickness, which require the shadow: like old townsmen "that will be still sitting at the street door, though thereby "they offer age to scorn." It is more than a misfortune to themselves, it is an injustice to the public, that almost septagenarians should still be allowed to usurp the prominent places in our hospitals and medical schools. We beg once more to remind such gentlemen that they appear to have forgotten that the places they continue to occupy were not made simply for them, but that they were once fitted for the places. They have filled them long and deservedly—have done what was required of them to their credit and to the advantage of others. But human capabilities have their limits, and the time comes to everyone when he must rather repose upon the exertions of the past than vainly continue to gird himself for the race of the present. Let every man know, then, when he should retire from the course and give place to other and younger men. The latter have no right to be kept looking on only as idle spectators until their own joints begin to lose their suppleness, when they have long since been invited to prepare for the combat. We repeat, that amongst the several improvements which the year before us will no doubt initiate, there cannot be proposed a change more to be desired than one which will substitute the energy of youth for the hebetude of age.

Medical Annotations.

"Ne quid nimis."

AN OUTRAGE AT HANWELL.

THE benevolent physicians who have spent the best energies of their life in inaugurating a system of mild and humane treatment of the insane must feel the deepest grief and mortification at some recent public and indubitable proofs that those gentle and efficient means are disregarded by some of the attendants of the great public asylums, and that the most disgraceful and inhuman brutality takes their place. Occurrences such as those which have not very long since been recorded in this journal, and one which at Hanwell last week was the subject of the judicial inquiry of Mr. Brent, Deputy Coroner for West Middlesex, brand with an indelible stain of dishonour the public institutions at which they have taken place. We are anxious to acquit the medical superior attendants of blame, and to give them all praise for the attention to their duties and the merciful consideration of their patients, of which we have so many proofs. It is impossible, however, not to feel that a grave responsibility rests upon all concerned with the management of a public institution for the reception of lunatics, where the under-keepers are proved to have so maltreated a patient as to have broken his ribs, or, as in the recent case at Hanwell, to have kicked him, trodden upon him, and beaten him with an iron shovel.

The details proved at the inquest held last week on the body of Mathias Geoghegan, a patient at Hanwell Asylum, showed that the most horrible brutality had been exercised upon the unfortunate man. The keeper, Jones, was seen by two accidental spectators to kick the poor lunatic three times as he was lying on the ground. He then beat him about the back with a shovel, and drew him by the legs into the middle of the room. He mounted on the deceased, and walked forwards and backwards upon him. He then took hold of his legs and dragged him to the doorway, after which he twisted him round by the heels. Subsequently Jones took the unhappy man by the head, knocked it three or four times on the stone floor, and kicked him two or three times at the bottom of his belly.

In corroboration of the evidence of these two eye-witnesses, Dr. Begbie and Dr. Jephson, medical officers of the asylum, were examined, and the testimony of the latter is stated in these words:—"I went (November 22nd) to the ward and stripped the deceased, and found the bruises described by Dr. Begbie. There was a very large bruise on the left groin extending to the thigh, a bruise on the right shin, an abrasion on the elbow and another on the shoulder-blade, a bruise on each buttock, and a peculiar-shaped bruise on the abdomen. I took off my boot, and it fitted the bruise, as if he had been kicked or trodden upon. He was very much paralysed. The bruises gradually subsided, but he was very weak and never recovered."

It is no small aggravation of the infamous outrage committed by this man, Jones, that the unhappy patient was described as "very imbecile, troublesome, *not violent*." The medical evidence did not connect the cause of death—pleuro-pneumonia—so closely with this inhuman assault as to justify a verdict of manslaughter; but, setting aside the question of the culpability of the attendant who committed the offence as one which can only be dealt with according to the forms and power of the law, we are more interested in emphasizing the general responsibility of the managers and governors of the asylum for the gross misconduct of their servants. It is difficult to conceive that a man capable of such a brutal outrage could have generally conducted himself to the patients under his care with the humanity which ought to be ensured to them; or to suppose that the first offence publicly proved is also the first committed against them. The recurrence of such exceptional horrors must stain the character of the institution at which they occur, and the justly profound impression which such exposures produce involves in a general censure all the authorities of the asylum. It is said that the authority of the medical superintendents over the subordinate officers is unwisely restricted. If this be the case, the responsibility for such deplorable events as have recently occurred must rest elsewhere.

PATHOLOGICAL PROSPECTS.

THE general meeting of the Pathological Society on Tuesday evening, inaugurating a new year by the election of officers, was marked by evidences of a satisfactory state of prosperity and energetic vitality. There were some points in the Report of the Council worthy of note. The composition fee of the country Fellows had in the early days of the Society been fixed at five guineas, for which sum they secured the privilege of receiving the volumes of the Society's "Transactions" through life. These volumes, at first of modest size, and but little illustrated, are now goodly and costly tomes, full of the most valuable records of recent pathological research. They are quite unrivalled amongst the records of any similar foreign Society for extent of variety and original value. The greater costliness of these volumes has suggested a question as to the desirability of raising the composition fee, which is below that of other Societies. But the Council, finding that their many balances are on the right side, and that a steady increase of funds has hitherto occurred and may be anticipated to follow,

have wisely resolved to keep in view the object of spreading pathological research and science as widely as possible, and to encourage the increase of their country adherents by maintaining the subscription fee at its present rate. This resolution may be expected to operate in favour of such an augmentation. The Report alluded in terms of regret to the failure of the negotiation for amalgamation proceeding from the Medical and Chirurgical Society, but attributed it to practical difficulties in the way of providing for individual freedom and independence of action. The Report was adopted on the motion of Mr. Coulson, seconded by Dr. Broadbent. Votes of thanks to the retiring officers were passed on the motion of Mr. Hulke, seconded by Dr. Grailly Hewitt, and acknowledged by the President, Dr. Copland. The ballot was open for the election of officers, and Dr. Hewitt and Mr. Ernest Hart, who were requested to act as scrutineers, reported that the gentlemen named by the Council had been duly elected. The new names are—Dr. Wm. Jenner and Mr. William Coulson amongst the Vice-Presidents; and Dr. George Budd, Dr. A. Clark, Dr. George Harley, Dr. J. E. Pollock, Mr. B. E. Brodhurst, Mr. R. Barwell, Mr. W. H. Flower, and Mr. T. Holmes, on the Council.

A QUASI MEDICO-LEGAL EXAMINATION.

THE heavy damages imposed on Mr. Hodson lately by a Liverpool jury for incautiously following the directions of the police, and making an examination of Mrs. Weir, in connexion with a suspicion which had arisen at an inquest on a child found dead, have resulted in the pecuniary ruin of that unfortunate surgeon. He is greatly to be commiserated for the severe sufferings inflicted upon him as the consequence of his want of caution.

In further explanation of the abridged report of the trial, in which it appeared that Mr. Hodson made this examination by request of the police, in presence of the Coroner, and in furtherance of the ends of justice, that surgeon has addressed to us copies of certificates from Superintendent Hammond, of the Cheshire constabulary; H. Churton, Esq., Coroner for South Cheshire; and a Mrs. Parker.

The compression of evidence incidental to abridged reports of a trial has kept the statements of these witnesses back from the knowledge of the profession. We feel the more bound to assent to Mr. Hodson's wish that we should publish them, because they will serve to afford a convincing proof of the entire absence of all moral culpability, and to establish in the clearest light the propriety of the motives under which Mr. Hodson was thus led to act, in adopting a measure which has proved so fatal to his material interests.

(Copy of Hammond's Certificate.)

"Cheshire Constabulary, No. 6, Wirral Division,
"Birkenhead, Nov. 2nd, 1861.

"On or about the 5th of March last, a newly-born infant was found lying dead in a ditch at Egremont-Liscard; and from inquiries made, a Mrs. Weir was suspected to have given birth to the said infant. Mr. Hodson, who was called to make a post-mortem examination of the body, was also requested, in the *presence of the Coroner*, to accompany myself and a Mrs. Parker to the house of Mrs. Weir, and told her that she was suspected of having given birth to the said infant that had been found. She replied, 'I am quite willing to be examined;' and upon that Mr. Hodson did so.

"THOMAS HAMMOND, *Superintendent.*

"Mr. Hodson, Egremont."

(Copy of Coroner's Certificate.)

"This is to certify that, in March last, I held an inquest on the body of a new-born infant in the township of Liscard, and that the said infant was found dead in a ditch under circumstances of much suspicion. I also certify, that Mr. Hodson, Surgeon, was requested by the Superintendent of Police to make a professional examination of a woman suspected to have given birth to the said infant unknown, *in my presence*, while officiating as Coroner. "H. CHURTON,

"Chester, Oct. 22nd, 1861." "Coroner for South Cheshire.

(Copy of Certificate.)

"THE CASE OF WEIR *v.* HODSON.

"*To the Editor of the 'Daily Post.'*

"SIR,—My evidence not having appeared in the papers, I think it but justice to state that I was present during the examination of Mrs. Weir by Mr. Hodson. It was done with her *full* and *free* consent, and conducted in the most delicate manner possible. It did not occupy more than five minutes, and not *ten*, as stated by Mrs. Weir. "MARY PARKER,

"Jan. 1st, 1862." "7, King-street, Egremont.

TRAINED NURSES.

AN excellent scheme has been set on foot, in connexion with the Liverpool Infirmary, to train a higher class of professional nurses for attendance on the sick, rich and poor, of that town. The scheme has been long in preparation. For the relief of the sickness which afflicts the population, ample resources are provided of all kind, except that on which the efficacy of all others greatly depends—a supply of skilled and trustworthy nurses. This is a want which is common to the metropolis, to all our large towns, and in the highest degree to our rural districts. To the sick man in his palace or in his cottage, the skilful nursing of trained women is invaluable. There is nothing more scarce. The provision made at St. Thomas's Hospital is diverted greatly from the civil population. It would be highly interesting if a public statement were made of the extent and uses of the work as yet done under the trust of the large Nightingale Fund subscribed by the nation, and devoted by the wish of that illustrious lady to the training of women for nursing. The Protestant sisterhood of St. John's House constitute another centre for training nurses. Yet every medical practitioner in London is fully aware that even for the rich it is still difficult to procure good nursing.

For the poor it is far more so. The district Poor-law medical officer passes in his rounds through many a poor man's house, where he well knows that half his care is wasted, half his medicines are of no avail, and his intentions frustrated by the ignorance and inexperience of those who surround the patient, by their inability to comprehend instructions, and incapacity to carry them out. It is for the poor especially that nurses are required to assist the doctor in their homes. The Baroness Lionel de Rothschild has, with characteristic liberality and wise philanthropy, made such a provision for certain of the colonies of poor persons of the Jewish faith in the eastern parts of London. The help of a nurse for an hour each day, or for a few days, is of the greatest importance to rich and poor. The provision in London is very insufficient, and in the great towns and rural districts there are no existing resources from which to draw a supply of trained women for this work.

At Liverpool the nurses will be trained in connexion with the Infirmary, and will pass through a period of four months' probation and eight months' actual service. Thus the sick poor relieved by the Infirmary will obtain the assistance of a superior class of nurses, and the experience gained in attending on so many cases of various accidents and diseases will be available for the benefit of all classes.

THE ILLNESS OF THE LATE PRINCE CONSORT.

WE are officially informed that the authentic and coherent account of the illness of the late Prince Consort, for which the profession and the public have manifested an anxious desire, will for the present be withheld. This is to be regretted on every account. It cannot be said that the public, which had a claim to daily bulletins of the illness during its progress, has none to such a statement as may explain and reconcile the unavoidable imperfections of these documents. The impression produced by the silence maintained in the presence of public questioning on this subject cannot fail to be painful. It leaves open to various conjectures a matter on which there should rest no shadow of doubt.

THE INFLUENCE OF RAILWAY TRAVELLING ON PUBLIC HEALTH.

Report of the Commission.

II.

THE existing railway stock in this country is now represented by upwards of a quarter of a million of vehicles. If joined into one long train, with their 5800 engines, (consuming 260 tons of coal per hour,) they would form a continuous line of about 600 miles; sufficient to join the extremest points of Britain.

Of this vast number, 15,076 are passenger-carriages, and all these are practically alike in everything except their internal arrangements. Now as the waggon part, or bed, of all passenger-carriages (including the wheels and springs) are similar in construction, it follows that, contrary to general opinion, the amount of motion is the same in all classes, and is that originally due to the bad understanding between wheel and rail: as already explained in the report of Mr. W. Bridges Adams. But the character of the motion conveyed to the passengers in each class varies considerably, as most travellers know, and hence they incline to believe that the *amount* of motion also differs.

Trucks. Riding on an empty railway truck, loose coupled, with short springs, and having no buffers, conveys to the passenger a very accurate account of every inequality and irregularity of the line, or defect in the wheels. It is thus that every new line should be tested and every old line judged; the amount of motion in different distances being mechanically guaged. At present the system of inspection seems greatly deficient in exactitude. It is very rough riding on the rail in such a conveyance, 'shaking the very life out of you,' as the phrase is, by a series of sharp, vehement bumps, with irregular, but notable intervals. These represent what is felt by every vehicle passing over the line, and represent also the enormous amount of wear and tear which has to be paid for by the companies on account of deficiencies in construction.

PASSENGER-CARRIAGES. — In Passenger-carriages the long springs somewhat modify the sensations experienced. But being very rigid and only slightly curved, they afford relief to a very limited extent. It is when these yield too much (on a rough bit of the line) that there is experienced the most disagreeable short bump occasioned by the carriage coming down on the flattened surface of the spring.

Third-class carriages. In the third-class carriages the motion is somewhat better than on the truck; but the short, sharp jolts experienced are eminently unpleasant; the sensations felt after a long journey rather resembling the soreness ensuing after a bruise. An eminent surgeon, of large railway experience, informs us that he frequently hears third-class passengers complain for days from the constant knocking together of the knees which successive jolts during the journey produce; for the close packing prevents any wide separation of the legs.

Second class. In the second class, where the seats are covered, the motion is broken up by this intervention into a greater number of less violent shocks, having less intervals between them; for the total amount of motion communicated to the carriage is the same.

First class. In the first class this alteration in character of the motion experienced by passengers takes place to a still greater degree, on account of the thick cushions and padding. It becomes an almost incessant repetition of mere vibrations; swaying the body according to the direction of the impulse.

The motion produced in railway travelling is of two kinds—vertical and lateral.

Lateral movement. The lateral oscillation is more on the narrow than on the broad guage lines. This may be readily understood on considering the wider base of sustentation on the broad guage which necessarily diminishes the lateral range of swaying movement. It varies in different carriages in the same train, and according to many conditions. Its extent can scarcely be correctly estimated by personal sensations, as the beautifully elastic apparatus of the body supplies in some measure what the railway carriage is deficient in. But the shadow of an object cast by the flame of a railway lamp, (or of one taken for the purpose,) when the flame is steady, will demonstrate how continuous is this influence on passengers.

Vertical movement. The vertical movement is only occasionally felt. It varies according to the weight of the carriages, and can take place to an extent of three inches and a half without lifting the wheel from the rail. The following represents the amount found to occur by examining carriages on different lines:—

Great Northern—First class, ¾ to ⅞ in.; second class, ½ to ¾ in.; third class, ¾ to 1 inch.

South-Eastern—Average vertical movement (all classes), ¾ in.

Eastern Counties—No difference in classes; average about ¾ inch.

Great Western—No difference in classes; average vertical movement, 1 inch.

The actual number of movements in a given time varies according to many circumstances. An eminent scientific chemist thus writes to us on this subject:—"I once counted 90,000 movements in a first-class carriage from Manchester to London, but how many more there were I did not further examine. There was a considerable variety in the kind of movement. I never attempted to count the number in a carriage without cushions."

Loose coupling. There is also another cause of movements of a most disagreeable kind to passengers, which is due to the carriages not being coupled sufficiently close together. Each of the coupling-hooks is fixed to a strong spring. The strain on this spring varies according to the number of carriages behind, which it has to pull onwards. The pressure on the buffer-springs is nearly uniform. Hence it happens that carriages which seem closely coupled when at rest are dragged apart as soon as a strain is put on the coupling-irons, and come together more or less forcibly when this strain is diminished. Thus a jolt takes place when the buffers come in contact, like that felt when fresh carriages are run up to be added to the train.

VENTILATION AND TEMPERATURE.—The conditions of the air within railway carriages, according to its purity, its temperature, and the frequency of its renewal, must necessarily exercise considerable influence on the health and comfort of passengers. The following important observations on this subject have been communicated to us by Dr. R. Angus Smith, F.R.S.:—

"The air of several places being examined by the method described in my papers, I have found that a given amount of the permanganate solution is decomposed by different volumes of air, according to its state of purity. The numbers here given represent the volume of air capable of decomposing an amount of the solution of the permanganate, the same in every case. They represent, therefore, the proportionate purity of the air; the highest numbers represent the purest air.

Cubic inches of air requisite for the decomposition of a given amount of solution, showing comparative amounts of oxidizable matter.

MANCHESTER.

	Cubic in.
Air at All Saints, inside my laboratory	72,000
Front of the house	74,000 to 76,000
Bedroom looking to the back	64,000
Same room in the morning after being slept in ...	56,000
Bank of the Medlock, behind dirty houses	44,000
High grounds, thirty miles north of Manchester,	176,000 to 209,000
Closely packed railway carriage	8,000
When the strong smell of a sewer entered my laboratory	8,000

Thus a railway carriage closely packed stands very low in the scale. I may mention that the carriage examined was a third class one. In very hot weather, the woollen coverings of a first-class carriage are hurtful, but I do not think them so in cool or in ordinary weather, if kept clean; on the contrary, I think them beneficial. A good deal of the impurity is retained by the wool, and is not given off, but is oxidized in its place. A high temperature sends off some without oxidation, and produces what is called a choking sensation. When the sides are impervious to moisture, as in the second and third classes, there are great risings and fallings in the purity of the air. The impurity is then neither retained by the surface until oxidation takes place, nor slowly and gradually given out, but evaporates with great rapidity.

These remarks apply especially to cases in which warmth and cold, moisture and dryness, alternate. In constant warmth the impurity is not retained; in constant cold it is not given out. When cold or moist it is retained, and given out again when dry or warm.

Similar remarks apply to carpeted and uncarpeted rooms. Carpets are incapable of causing any discomfort if perfectly clean, and even tend to purify the air; but when not clean, they cause an unpleasant sensation, which increases with the temperature to a certain point. The more impurity there is the less will wool and similar substances bear an elevation of temperature, unless the elevation be constant, when the wool seizes very little of the impure matter. With care and cleanliness, the linings of railway carriages may last pure till the cloth is worn out, and they do so in some places; but in some counties (and it seems to me that Lancashire is one of the worst) there is no regard to the property of the company or the comfort of those coming after; dirty boots are put on the cushions, and the carpets are fouled by expectoration. This is at first less felt in first-class carriages; but as it cannot on the present arrangements be conveniently washed out, it accumulates. This is probably the reason why our first-class carriages are made so much less comfortable than those on the continent. It would be greatly to their advantage if they were disinfected occasionally. The most easy way would be to take out the cushion portion, raise it to the temperature of about 180° Fahr. or more, first with steam, then with dry air, and then beat and brush thoroughly.

The atmosphere of railway carriages is only apt to be hurtful from bad ventilation when crowded, because of the frequent opening of doors and the almost impossibility of keeping out the air. At the same time, it depends upon the state of the weather—the temperature and the wind chiefly. When temperature rises, all impure surfaces become more offensive and everything known has a smell—persons and animals pre-eminently. We can readily smell the inmates of a carriage for a considerable time after they have left, if the carriage has been crowded. But I know of no rule whatever as to the preservation of temperature or amount of air. The person who comes rapidly to the station wants fresh air; and he who has been sitting for hours desires warm air. Nature tells each his requirement. The person weary with sitting and with his blood slowly circulating, does not require so much air; if you give him as much as the person fresh and flushed, he cannot resist the lowering of the temperature, and becomes feverish, irritated, or chilled. Inferior air is better to him than loss of heat. And why? The heat of the system must be maintained, no matter what else is diminished; because every function depends on it. No wonder that persons, to avoid cold, breathe impure air. Life may exist in pest-houses for years, and may continue through a raging fever for weeks; but to be cooled down to a certain easily-reached point puts us in a few minutes beyond all help, and a draught may bring death like a bullet.

It would be a great point gained if carriages could be ventilated without a violent draught, laden with dust, in the face of some one who is supposed to be insensible to good air, because he is sensitive to cold; he knows that he may very soon recover from the effects of any bad air generally caused by crowding in carriages, but from the cold he knows with no certainty when.

One of the evils of railway travelling in warm weather is the dust. The amount, especially at some distance from the engine, is sometimes more difficult to bear than the confinement of the air; and I think it must at times be more hurtful than the work of the stonemason, beside whom I have frequently stood, feeling far less dust than on a railway on a fine summer day, and yet we know the mason suffers.

If the carriage is constantly ventilated moderately, no time is allowed for the wool to absorb the vapours from the breath and skin; but if the carriage is sometimes filled with unpleasant exhalations for a considerable period, it may require a still longer time of the action of pure air to cause their removal and destruction. Mere change of air in the carriage is not sufficient. We may smell the air of a crowded building on persons who have left it many minutes—I can from experience mention twenty minutes, and I have no unusually acute sense of smell."

As bearing on and elucidating this part of our subject, we have to acknowledge the following most interesting communication from Dr. C. J. B. Williams, F.R.S.:—

The chilling influence of railway travelling.

"Unquestionably the great charm and superiority of railway travelling is its *speed;* and in this fast age of rapid progress, when all the appliances of science and art are brought to bear on the problem of almost annihilating time and space, it would be an ungracious task to put a drag upon the wheels, provided that this charming velocity can be maintained without risk to health, and without danger to life or limbs. Of the perils from accidents incurred by high rates of speed I will say nothing, further than that they have their preventives in strict attention to accuracy of construction, excellence of materials, efficiency of working, and the most unremitting observance of regularity and punctuality, which it is the plain duty of managers and directors to enforce and maintain.

But the velocity of railway travelling may bring with it dangers of another kind—less appalling, indeed, than those from accidents, but of much more common occurrence, and not the less mischievous from the gradual and insidious manner in which they beset the unwary traveller. I allude to the injurious influence of the draughts of air encountered in railway travelling.

The velocity of a railway train is such as to bring it in collision with the air to a degree that amounts to a high wind. Anyone putting his head out of the window of a train in rapid motion may have some idea of the force of this current. This same current penetrates into the interior of the railway carriages more or less freely, according to the amount of openings in them. Through open windows it blows in full force; entering in front, it strikes the faces and fronts of those looking towards the engine, and whirls in rapid eddies around the polls and backs of those riding backwards. In the thirty or forty

sultry days which may chance to occur during our summer months, this fine breeze may be all very pleasant; and if it do not bring dust with it, we would on no account exclude it. But in the remaining three hundred days and upwards this current is too cold to be borne in safety; and if not shut out by more or less completely closing the windows, as well as by the use of adequate clothing, it will surely and steadily chill the parts of the body exposed, and will as surely excite disease in those predisposed to it.

Of course these observations apply most strongly to the coldest weather of winter; but, be it remarked, the speed of the railway intensifies the cold, and renders the draught of air dangerous, even when its temperature may not be lower than 50° or even 60° Fahr. This result chiefly obtains in long journeys, especially during the night, when the drowsy traveller may hardly feel the cold till he wakes with cold feet and stiff limbs, and the depression and discomfort attending on a gradual but thorough chill. Express trains, which attain the greatest speed, and make the fewest stoppages, are the most chilling, and therefore in long journeys are more dangerous than ordinary trains. Those railway lines which run far on high embankments or viaducts, or through a bleak, open country, are the most trying in this respect, and the direction of the wind, whether against or with the train, has a considerable varying effect. An express night journey to Norwich, Hull, or York in the teeth of a sharp north-easter, is about as *shramming* a trip as can be provided in this country. Yet the coldest journey by rail that I ever made was to Torquay on a night before Christmas of 1860. In spite of foot-warmers, abundance of furs, and closed windows and ventilators, all the glass of the windows was crisply frosted on the inside, and I was so benumbed with cold that I did not recover comfortable temperature for several days. It was the coldest night of that cold year, and on the next morning I saw the thermometer on a south aspect at Torquay standing at 12° Fahr.

The disorders which I have found to be most commonly excited by the influence of cold in railway travelling, are the various catarrhal affections of the respiratory organs, sore-throats, earache, toothache, pleurisy, pneumonia, and various forms of rheumatism, particularly lumbago and sciatica. It is very remarkable how many cases of serious pulmonary disease in my experience have dated their origin to cold caught in railway travelling.

Now, to prevent these evils, it seems a very simple expedient to close the windows as much as is consistent with due ventilation, and to use sufficiently warm clothing to exclude the cold; but the closure of the windows in a railway carriage is not so easy in practice as in theory. The plurality of English folk love fresh air, and have a horror of closed windows; they prefer being chilled to their notion of being suffocated. And as it is the warm-blooded and robust who commonly entertain these views, they often assume the management of the windows in accordance with them, to the great detriment of the delicate and susceptible. Foreigners on the continent, even with their slower trains, commonly go to the opposite extreme. Even in summer they often persist in keeping the windows close shut, to the discomfort of their British fellow-travellers; but I am confident that the graver error is on the side of our countrymen. Generally they are not aware of the risk to which they expose themselves and other passengers by keeping open windows in cold, or even cool weather. In fast trains, with the outer temperature below 40° Fahr., there is circulation of air through the ventilators and unavoidable chinks of the carriages, sufficient to keep the air pure, even with six or eight passengers, without any window open. When the outer temperature is above 40°, and the carriage full, an inch or two of one or both windows open may be permitted with safety. It is surprising how small an aperture suffices for free circulation of air when the train is in rapid motion. Exact experiments on this point are desirable; but as bearing on it, I would refer to the celerity with which even, in closed carriages, we smell the smoke of the break applied to the wheels at each stoppage; or the fumes of a tobacco-smoker in an adjoining carriage, when he breaks the rules of the establishment and annoys his fellow-passengers for his own selfish gratification.

Finally, I would say on this topic, in cold weather and in fast trains there is vastly more risk of chill from open windows than of suffocation or any other evil from closed ones. The ordinary ventilators will commonly prove sufficient when the train is in motion; as often as it stops the windows may be opened with safety and comfort.

In the matter of clothing, people were slow to learn the exigencies of railway travelling. The railway rug has now become an institution; but several years elapsed before it was introduced, and even now its use is not so general as it should be, and many are the sufferers from the want of it. The tendency of the general chill to affect first the feet and legs, and to throw the blood to the head and internal organs, is one of its most pernicious influences; and to prevent this the railway rug is invaluable. In winter weather the foot-warmers of hot water, or those heated by the waste steam, are further comfortable counter-agents of this chilling influence. When it is considered that in travelling by an express train a person passes through the air at least three times as quickly as in an ordinary carriage, it will not be too much to assume that he is exposed to at least double the chilling influence in cold weather, and will need at least double the amount of clothing that he would require in a stage-coach or post-chaise.

In conclusion, I would advert to the *desiccating* effect on the skin and mucous passages produced by long railway journeys, as another result of the operation of the current of air, which may be mitigated by the same means of exclusion and protection; but it is more completely removed by restoring the action of the skin by active exercise or by a warm bath."

PHYSIOLOGICAL INFLUENCE. — In considering the physiological influence of railway travelling upon public health, it is necessary to enlarge the sphere of observation beyond the mere act of travelling, and to regard some of the accessory conditions which surround it. Modern society has seized the occasion offered by increased facilities for business communication, and multiplied its means of pleasure and chances of recreation. Habitual railway travellers are found not only amongst those who move from place to place, urged by some necessary impulse; but also there is included amongst them a numerous class of season-ticket holders who, from considerations of health, pleasure, or economy, locate their families at a distance, and daily travel by train to some great industrial centre; again seeking a country home in the evening. This most important class of travellers is especially subject to the extraneous influences alluded to. They are under the necessity of twice daily 'catching the train;' and to a certain extent all their actions prior to departure in the morning and afternoon are influenced by the pervading sense of this anxiety. We will quote here a graphic communication on this matter from Dr. Forbes Winslow.

Habitual travellers.

Dr. F. Winslow on extraneous sources of anxiety and fatigue.

"I have, like many others, during the summer season, removed my family for a period to a watering-place some fifty miles from London, and travelled to and fro night and morning by express train. I have been convinced that the advantage of sleeping by the sea-side, and of an occasional day of rest there, was fully counterbalanced by the fatigue and wear and tear of mind and body incidental to daily journeys over this considerable distance. I went to bed at night conscious that I must rise at a given and somewhat early hour, or miss my train. I am sure that this does not render sleep more sound and refreshing; and everyone sleeps best on the Saturday night, when this disturbing element does not exist—since the next is the day of rest. In the same way breakfast is eaten

with this necessity of being in time still on one's mind. Then, like every one else, I had to get the cab or carriage and go down to the station; to scramble for the morning paper and get a seat. Then comes the long journey, with all its fatiguing accompaniments. Finally, one has to get to one's residence; this process, or something like it, *mutatis mutandis*, being repeated twice a day. I refer to these separate details because it is in analyzing the general series of phenomena that I am able to explain the fatiguing effects, mental and physical, of constant railway travelling."

Concurrent testimony of other physicians.

The frequent ill-effects of this anxiety and mental pre-occupation are insisted on in the communications made to us by many physicians of great experience. They have a most important bearing in relation to certain diseases which will be elucidated in a subsequent section. Dr. Brown-Séquard observes, that the anxiety is so predominant in many otherwise healthy constitutions, that it produces often a practical incapacity for habitual travelling; and must evidently, when it falls short of this, frequently be injurious. When living near a railway station, he observed that the frequent excitement, and constant hurry and anxiety which he witnessed on the part of passengers arriving, impressed itself on his mind as a mischievous circumstance. In certain unhealthy conditions of the heart it has many times proved fatal.

But the actual fatigue and physical effects of the journey chiefly influence the mass; phlegmatic and robust-minded persons are little likely to allow themselves to be mentally agitated by the necessity for catching trains or the like. But let it here be noted, that a great number of the season-ticket travellers are men past the early vigour of life—time-worn by the continued cares of business during long residence in towns, and whom a more or less tardy success in the battle of life has enabled to afford for their families the salutary change of country or sea-side residence, or whom some warning of failing health compels to seek for themselves such a transformed version of the *rus in urbe*. This is a sort of constitution not able to bear unnecessary strain and fatigue.

We will next consider what are the conditions inducing functional change to which travellers are subjected in a railway train, proceeding at ordinary speed.

Effects on the muscular system.

The immediate effect of being placed in a vehicle subjected to rapid, short vibrations and oscillations, as already detailed, is that a considerable number of muscles are called into action, and maintained in a condition of alternating contractile effort throughout the whole journey. The tendency of each movement is to produce more or less motion in the twenty-four pieces of which the spine is made up. These movements are counteracted, and the erect position of the body is maintained, by the adaptive contraction of that complex muscular system attached to those osseous pieces. The more violent movements of the carriage call into action the various sets of muscles in the back and chest; and it is only by an incessantly varying play of contraction and relaxation that the body is preserved in a tolerable state of equilibrium, and that the passenger combats with success the tendency to be shaken into a most unpleasing variety of shapes and positions. The head is especially thus affected, being so balanced on the spine as to have a tendency to fall forward. The frequency, rapidity, and peculiar abruptness of the motion of the railway carriage keep thus a constant strain on the muscles; and to this must be ascribed a part of that sense of bodily fatigue, almost amounting to soreness, which is felt after a long journey.

Influence on the cerebral and spinal centres.

The hollow cavities of the spine and cranium, thus partially steadied by the muscles attached to them, contain the great nervous centres, to which concussion of any kind is so peculiarly hurtful that they are naturally cushioned on exquisitely-devised water-beds or are slung by fibrous ligaments, which have the effect of deadening the shocks of ordinary movements. It is unnecessary to dwell upon the injurious effects of commotion of the brain or spinal system of nerves. Cerebral or spinal concussions, in their higher degree, annihilate the functions of those organs. In the milder forms they lead up to disease which, remaining for a long time latent, may still end in paralysis.

The jolting of a railway carriage is a series of small and rapid concussions; and it is worthy to be noted that these increase in proportion to the rate of speed, and that most of the trains by which season-ticket holders travel are express. It may therefore be judged, so far as anatomical grounds are concerned, how prejudicial must be the influence of reiterated concussions.

The seats of carriages.

The well-padded and springy seats of first-class carriages do much to obviate the mischief of these concussions for those who can afford to travel by them; and it has been mentioned to us by a surgeon who, in a great manufacturing centre, is connected officially with several railway companies, that he has observed that men compelled to travel frequently by rail are fully sensible of the practical advantage thus offered by the padded or cushioned seats, and never, if they can avoid it, travel on any other. We believe that commercial travellers, as a rule, occupy first-class carriages, not as a luxury, but as a necessity of their nomadic life. But however this may be, it is right to notice a remarkable fact in the relation of different classes of railway travellers. In 1849 the third-class passengers formed about 51 per cent. of the whole number; in 1860 they formed more than 57 per cent. It therefore becomes a matter of simple justice that the railway companies consider the health of this important class of travellers. In condemning them to sit on hard wooden benches, which transmit fully the shocks incidental to the movement of the carriage, they submit them unnecessarily to one acknowledged source of evil influence on health.

The influence of railway travelling upon the brain cannot, however, be measured solely by estimating the character and extent of the concussions to which it is subjected. The brain is not only affected by the mind, but also through the avenues of the eye and ear; and by the excitement of the respiratory and circulatory systems.

Of mental influences.

The mental condition of passengers by train is commonly, perhaps, sufficiently placid and unconcerned; but several eminently careful observers have, in their communications, alluded to an often experienced condition of uneasiness, scarcely amounting to actual fear, which pervades the generality of travellers by rail. The possibility of collision is constantly present to such persons. And everyone knows how, if by chance a train stop at some unusual place, or if the pace be slackened, or the whistle sound its shrill alarm, a head is projected from nearly every window, and anxious eyes are on the look-out for signs of danger. So, too, the frequent lateness of trains, and the bad time which they keep, are causes of anxiety. The pace, also, prevents the traveller from observing natural objects and sites of interest on the road, which made coach travelling a source of mental relaxation and a pastime. The passenger is forced into subjective sources of mental activity; and where the tendency to excitement exists, this also, *quantum valeat*, must be esteemed an undesirable feature belonging to this manner of locomotion.

Effects on the eye.

Objects on the road are passed with such velocity that they only produce momentary impressions on the retina; and thus the visual powers are severely tried. The rapidity with which the brain is necessitated to take cognizance of the retinal images taxes it also more or less heavily. The rapid impression of objects moving over the retina in railway

travelling is productive of certain interesting physiological phenomena, to which we can only briefly allude. Sir David Brewster has touched upon some of them with the ability for which he is distinguished. In a paper read at the last meeting of the British Association, and which will doubtless be published in the forthcoming volume of the "Proceedings," this great physicist showed that "when we look at the lines which stones, gravel, or other objects form in consequence of the deviation of their impressions on the retina, and quickly transfer the same lines further back, where the velocity is less, the stones or gravel or other objects would for an instant be distinctly seen, just as we see distinctly rapidly revolving objects in the dark when they are illuminated by an electric flash, or the light of an exploded copper cap." This phenomenon may be explained by a remarkable and interesting law of compensation. The rapidity and variety of the impressions necessarily fatigue both the eye and the brain. The constantly varying distance at which the objects are placed involves an incessant shifting of the adaptive apparatus by which they are focused upon the retina; and the mental effort by which the brain takes cognizance of them is scarcely less productive of cerebral wear because it is unconscious; for no fact in physiology is more clearly established than that excessive functional activity always implies destruction of material and organic change of substance. Dr. Budd, F.R.S., has directed our attention to the peculiarly dazzling effect of passing in rapid succession the white telegraph posts, from which the wires seem to fall and rise, appearing to the eye to undulate. When the traveller sets himself to read, he imposes yet further labour on the eye in tracing the shifting characters of his book or newspaper, and also on the brain. Especial notice is drawn to this point in an important communication which we have received, and shall hereafter publish in full, from Mr. White Cooper, surgeon-oculist to the Queen. Everyone is conscious of the strain upon eyesight incidental to railway travelling and to reading in the train; but it is probable that few habitual travellers are sufficiently cautious in this matter, and that many only become wise by too tardy an interpretation of their personal experience.

Impressions through the ear.

The rattle and noise which accompany the progress of the train create an incessant vibration on the tympanum, and thus influence the brain through the nerve of hearing. Noise is conveyed by vibrations of the air; and hearing is the transmission to the brain, through the medium of the auditory nerve, of those measured vibrations which constitute special sounds. The habitual traveller is little mindful of it, and the brain of many persons is perfectly tolerant of the excitement. But this is an important item in the general cerebral impressions produced. Dr. Fuller, of St. George's Hospital, in communicating his personal experience of the influence of habitual railway travelling, mentions a device adopted by him which furnishes at once a test and remedy for this source of cerebral excitement. Surmising that some part of the headache and mental fatigue experienced was due to the rattle and noise, he filled each ear with a light plug of cotton-wool. In this way the vibrations of the air in the meatus were arrested, and the relief is described as having been considerable.

Assailed through the avenues of the eye and ear, and subject to concussions due to vertical movement and lateral oscillation communicated through the trunk, and actually transmitted by the bony walls of the head when it rests against the back of the carriage, the brain is apt to suffer certain physiological changes. Amongst the well-known effects are — occasional dizziness, headache, sickness, and mental fatigue.

Combined effects on the brain.

To these results each of the above causes may contribute something. The noise may be considered most influential in producing headache; but this may be aided by the impression of rapidly-passing objects on the eye, or by the effort of reading. For nothing tends more certainly to produce congestion of the base of the brain than the forced fixation of the eyes upon a near object. This is evidenced by experiment, and explained by the connexion of the circulation of the eye with that of the brain, through the ophthalmic artery, springing from the circle of Willis. Some powerful illustrations of this fact are afforded in the phenomena of hypnotism and electro-biology, and of some of the so-called mesmeric phenomena, where sleep and the required changes of the cerebral circulation are physically produced by fixing the eye upon an adjacent shining body. The mere aspect of a swinging object sometimes suffices to produce sickness, as in the late celebrated Dr. Jas. Johnson; and so rapidly-passing objects may aid in the frequent production of nausea in the train. Probably the concussion incidental to the movement of the train is more potential in bringing about this effect. The influences on the respiration and circulation will hereafter be mentioned.

Any sudden alteration of the heart's action may aid in producing giddiness and dizziness, which are not always felt during the journey so strongly as after leaving the carriage. And it is when the circulation is returning to a more regular standard that temporary access of sickness and vertigo is often experienced. These symptoms have been especially noticed in the case of the travelling Post-office officials, as to whom Dr. Waller Lewis, the medical superintendent of the Post-office, has communicated to us a most valuable mass of information, which will appear in the third Report.

Nausea and sickness.

The tendency to nausea sometimes felt by railway travellers, without any apparent complication of cerebral disturbance, is often due to jolting of the intestines and gall-bladder, stimulating the latter to discharge its contents into the stomach, and thus excite biliary sickness. Many cases have been communicated to us of sickness induced by railway travelling, and some persons are unable to undertake a journey without providing against this unpleasant affection. Bilious subjects Dr. Waller Lewis considers, from his experience, to be unfit for the travelling service, and he rejects such candidates for that employment.

The nervous influence.

In the valuable communications on the subject of this inquiry made to us by Dr. Brown-Séquard, the probable cause of sickness is explained by reference to the influence of the movements in a railway carriage on the phrenic, splanchnic, and vagus nerves. It is known by the experiments of several physiologists, that irritation of the vagus nerve produces vomiting; and the jolting of the stomach, separating it from the diaphragm and producing corresponding traction of the œsophagus, (which is attached to the diaphragm, when passing through that muscular septum,) is admitted by physiologists to afford the best explanation of the ordinary phenomena of sea-sickness. A second cause of vomiting, as shown by the experiments of Luschka, is the irritation of the phrenic nerves due to the shaking of the diaphragm. Dr. Brown-Séquard, in former publications, has already investigated this subject experimentally, and has not only given confirmation to these observations, but has carried them further; and the results of his experiments will serve to give the physiological explanation of the peculiar *faintness* always accompanying nausea arising from the movements of a ship or railway carriage. He has shown that irritation of the sympathetic nerve in the abdomen induces cardiac syncope by a reflex action, influencing the action of the heart through the impressions conveyed by the splanchnic nerves acting upon the vagus through the spinal cord and medulla oblongata. The reflex character of the phenomena can be demonstrated by dividing the vagus in animals, when the irritation of the sympathetic no longer produces this cessation of the heart's beat, or by the division of the spinal cord between the communication of the sympathetic and the origin of the vagus, when a similarly negative effect is produced. Thus the faintness which sometimes occurs to travellers in a railway

carriage, and the sickness accompanied by faintness, equally find their true scientific explanation. Everyone has observed the marble pallor which accompanies this nausea: it is simply the result of a true fainting of the heart always preceding this form of sickness. It is needless to insist upon the important application of this physiological fact to all those persons who, being the subjects of fatty degeneration or other disease of the heart, are most likely to suffer from this kind of syncope, and in whom the organ may less readily recover from the temporary paralysis. There are two remedies of great value in diminishing these evil effects. A thoroughly tight bandage around the abdomen; inasmuch as it prevents, to some extent, the shaking of the stomach, and consequent irritation of the vagus nerve, so precluding the occurrence of sickness; and chloroform taken into the stomach may similarly prevent or diminish the annoyance by partially paralysing the vagus.

DESCRIPTIONS
OF
NEW REMEDIES
INTRODUCED INTO THE PRACTICE OF MEDICINE,
WITH THEIR THERAPEUTICAL EFFECTS.

No. II.

IF we judge correctly, that a new impulse is just now urging an advance in therapeutics, it is very desirable that the joint committee of the British Colleges who are charged with the task of compiling a National Pharmacopœia should not delay to publish that work. It is obviously of primary importance that the agents employed as remedies, if we are to benefit by collective evidence, should be accurately defined, and uniform in composition and strength. That much confusion and conflict of opinion must necessarily arise from the failure of this very elementary condition for accurate observation in therapeutics can scarcely be denied. Irrespective of adulteration and fraudulent substitution, so many sources of error attach to certain classes of our remedies, that it is more remarkable to find agreement than diversity in the estimate of their value. Substantially, a Pharmacopœia is little more than a list of substances, with tests for identifying them and ascertaining their purity, with the addition of a few formulæ for the preparation of compounds. Even to this extent, all Pharmacopœias have been hitherto scanty and deficient, including only such drugs, chemicals, and pharmaceutical compounds as the compilers deemed valuable. They have always been far in the rear of actual practice. A great number of remedies are in general use which are not recognized. The questions therefore naturally arise, What principle is to guide the framers of the new National Pharmacopœia in their selection? Are they waiting for evidence to enable them to adopt or reject new agents? Have they hoped by delay to reach a point of time when their work might be complete? Contemplating the movement now in progress to widen our choice of remedial agents, it would have been well had more diligence been displayed. Much inconvenience has resulted from the want of this long-expected work; and, when it appears, they might usefully appoint a standing committee to add an annual supplement, embracing our progress from year to year.

It must, however, be remembered that it forms no part of the functions of the Pharmacopœia to explain the therapeutic properties, either real or supposed, of the articles admitted. This is left to the voluntary agency of whoever chooses to undertake the task. Looking to the past, we cannot refrain from expressing a hope that, in the interests of practical medicine, this will be accomplished in a manner entirely different from that followed in "Manuals," "Elements," "Essentials of Materia Medica," and the rest of the genus. We want a fuller exhibition of the evidence—the grounds on which the Colleges select for the profession their remedial agents. Such works as we have had may suffice to enable students to pass "The Hall," furnishing just the minimum of information absolutely needed; but we mistake if they will satisfy practitioners, or find a place on the shelves of anyone really desirous of carrying on his practice with information up to the standard of the age, and who is desirous to possess all the instruments and appliances of his art which extended experience can furnish. Such information we intend to collect and offer to the readers of THE LANCET, in respect to as many remedies as are new, or concerning which recent observations have added important and valuable facts.

ANARCOTINE.

In "The Indian Annals of Medicine," for September, 1861, there is an elaborate and able report addressed by Dr. A. Garden, of Ghazeepore, to the Deputy Inspector-General of Hospitals, on the therapeutic uses of anarcotine, tabulating in various forms the results of its employment in nearly 700 cases of intermittent fevers. Turning to our systems and dispensatories, we find it briefly noticed that this substance has been employed as an antiperiodic by Dr. Roots and Dr. O'Shaughnessy. This brief notice has, it appears, been wholly overlooked or neglected in this country; and yet, as we shall show, anarcotine possesses therapeutic properties well worthy of the attention of British practitioners.

It is generally known, that one of the crystalline constituents of opium received from chemists the name of "narcotine," under an erroneous impression that it was the narcotic principle of that drug. So far from this being the case, it has not the slightest claim to that title; and, consequently, it is very properly proposed to prefix the privative letter *a* to the name, and henceforth designate it as *anarcotine*.

Referring to Sir W. O'Shaughnessy's original statement, we find him saying:—

"I have now employed the narcotine in sixteen cases of remittent fever, and such is my opinion of the efficacy of the remedy, that in instances of fever, intermittent and remittent, in ordinary healthy subjects, and in whom there is no complication of severe organic disease, I give it with the full expectation of arresting the next periodic return of the fever. I have seen the result follow in ten of the cases of the fever alluded to. I consider narcotine a more powerful antiperiodic than quinine. The remedy does not act silently. I have observed a degree of general heat follow its use in the first instance, and subsequently perspiration, so that it appears to excite in the system a salutary and powerful counter-action, as to stop the morbid concentration that issues in fever. I have not observed narcotine to lead to organic disturbance in the cases in which I have used it. In short, even from my scanty experience, I consider the remedy an invaluable one."

To his own testimony Sir William added the experience of several practitioners, who speak in the highest terms of its value as an antiperiodic, especially applicable—1st, in quotidian fevers; 2nd, in cases complicated with visceral enlargements of the liver, spleen, &c.—or local inflammations, as of the bowels—or cerebral congestion; 3rd, in cases of intermittents supervening upon surgical operations; 4th, after failure of quinine, or both quinine and arsenic.

Anarcotine is a white, inodorous substance, crystallizing in prisms, insipid to the taste, insoluble in cold and sparingly soluble in boiling water, more soluble in alcohol and ether, insoluble in alkaline solutions. It forms salts with the mineral acids which have a very bitter taste, similar to that of quinine. The sulphate and hydrochlorate are the most convenient for internal use. Anarcotine is obtained from the residue of opium left after separation of the morphia. Hence it ought to be a very economical medicine.

Dr. Garden's investigations, as recorded in the report alluded to, were directed to the therapeutic value and peculiarities and the commercial advantages of the use of anarcotine, and the conclusions he establishes are as follows:—

We have in anarcotine a remedy which fails in only 3·6 per cent. of all cases treated by it alone; and, without regard to the previous duration of the disease, and taking both quotidian and tertian agues, it arrests the fever on the whole average before the recurrence of a third paroxysm after the commencement of the remedy.

In small doses anarcotine acts as a tonic, increasing appetite

and improving the tone of the system generally. For this purpose, from half a grain to a grain of the sulphate, combined with a slight excess of sulphuric acid, is a sufficient dose.

As an antiperiodic, a grain and a half to three grains or more, even to the extent of six grains, may be given at suitable intervals. Its most appreciable effect on the system is, that it increases the heart's action, raising the pulsations from ten to twenty beats per minute beyond the ordinary amount, and renders the pulse somewhat fuller.

In larger doses (five to fifteen grains) it produces increased heat of surface and diaphoresis, and sometimes disagreeable symptoms—nausea, giddiness, and vomiting. These, however, disappear on lessening the dose, in most cases. The author remarks, "In several cases I have obtained marked benefit by combining tincture of opium with the sulphate of anarcotine." "The only objection to the medicine is its tendency to produce constipation;" hence, before and during its administration, purges are necessary.

In reference to the relative economy of anarcotine and quinine, Dr. Garden's tables are full and conclusive. The average quantity of sulphate of anarcotine required to arrest intermittent fevers was found to be twenty grains for quotidians, and something less than forty grains for tertians; whilst about sixteen grains were demanded during convalescence from both kinds for the re-establishment of health. If it fails in a small per-centage of cases, this is not more than is experienced with quinine, to which it is nearly if not quite equal in therapeutic value as an antiperiodic.

As a matter of mere scientific curiosity, not of any present significance in therapeutics, we may add that organic chemistry separates anarcotine into four homologous bodies, which, by decomposition with caustic potash, yield homologous volatile bases:—

Normal	anarcotine—yielding	ammonia.	
Methylic	,,	,,	methylamin.
Ethylic	,,	,,	ethylamin.
Propylic	,,	,,	propylamin.

[*Note on Veratrum Viride.*—Since our last issue we have been informed that a saturated tincture of veratrum viride affords relief from the pain arising from carious teeth, where opium and all other narcotics fail. In one case reported to us a small quantity was accidentally swallowed. It produced great muscular prostration, a very slow pulse, nausea, and, an hour and a half after being swallowed, vomiting. Recovery was then rapid, and no return of the toothache has been experienced.]

Correspondence.

"Audi alteram partem."

UNIVERSITY OF ST. ANDREWS.

To the Editor of THE LANCET.

SIR,—I find from numerous letters which I have lately received, that a general impression seems to exist that the new regulations recently issued by the Scottish Universities Commissioners came in force in this University on the first day of the *present* year.

Will you permit me to state, through the medium of your pages, that the new regulations do not come into operation until the first day of *next* year?

During the present year, members of any one of the Colleges of Surgeons, of the Apothecaries' Society of London, and of the Glasgow Faculty of Physicians and Surgeons, are, as heretofore, eligible as candidates for our medical degree.

After the present year, if the proposed regulations are confirmed by the Privy Council, no one will be admitted as a candidate for a medical degree who has not spent two of the four winter sessions at an English or Scottish University; at Trinity College, or one of the Queen's Colleges, Ireland; or at King's or University College, London.

I am, Sir, yours faithfully,
GEO. E. DAY, M.D.,
January, 1862. Prof. of Medicine in the University of St. Andrews.

CASE OF NUMEROUS FRACTURES.

To the Editor of THE LANCET.

SIR,—On the 12th November last I was requested to attend a boy who had fallen through the roof of a large ice-house. I found him suffering from the following injuries,—namely: Compound comminuted fracture of the right thigh; comminuted fracture of the left thigh; simple fracture of the radius of the left arm; simple fractures of the ulna and radius of the right arm; loss of four upper incisor teeth, with portion of the alveolar process; severe contusion of the right eyebrow. The boy survived the accident seven days.

I am induced to send you the particulars of the above case for the following reasons:—First, on account of the number of bones broken. In a very interesting monograph contributed by Mr. Hornidge to "A System of Surgery," the author states that fractures of *three* or more bones in different parts of the same skeleton are rarely found. Now in this case there were *five* of the long bones fractured, besides other injuries. Secondly, the fee of £12, allowed me by the guardians of the Romford Union, is, I believe, the highest that has ever been received by a Poor-law medical officer.

I am, Sir, yours truly,
Barking, Essex, Jan. 1862. FRED. DAVIDSON, L.R.C.P.E.

SECURING THE CATHETER IN THE URETHRA.

To the Editor of THE LANCET.

SIR,—Referring to the description given in THE LANCET of last week of the method by which Mr. Hart, at the West London Hospital, secures the catheter in the urethra, may I be allowed to mention a simple plan I adopt? A ring of bone, or other suitable material, is passed over the penis, and fixed in close contact with the pubis by two broad tapes passed round the pelvis; from this, as a fixed point, two slender tapes are secured to the bone-end of the catheter. By this plan the catheter can be kept in close contact with the stricture (a most desirable thing), and by not allowing the catheter to project more than about an inch from the urethra, the patient is enabled to walk about without disturbing the instrument.

I am, Sir, your obedient servant,
City-road, Manchester, Jan. 1862. JOHN HUNTER, M.A.

SUDDEN DEATH OF A CHILD.

To the Editor of THE LANCET.

SIR,—The following case I send, not that there is any great amount of interest connected with it, nor from any particular novelty that I am aware of in it, but simply as forming one of those cases to be borne in mind at all times when the question arises as to whether the death of an infant (occurring suddenly or at least unexpectedly) has been caused by neglect or by some intentional act of the parent or attendant, or whether it is consistent with the verdict of "Accidental death:"—

On Friday morning, the 16th ult., I was summoned to a village about six miles distant, in consequence of an infant having been found dead in its mother's bed. On arriving there, I saw the mother, a married woman, the wife of a labourer in very humble circumstances, and she told me that the infant (her second child) was thirty days old, and was healthy from its birth. On the previous evening, at seven o'clock, the child had sucked well, and once again during the night (supposed to be about two A.M.) had taken the breast; and from this time she had been in no way disturbed. According to habit, she awoke at about half-past four, as her husband usually went to work about five, and to her horror found the baby dead. It was lying to her right, the farthest side from the father, and on its own left side looking towards its mother. I found the infant in an upstairs room, lying on its back, having been placed thus by a neighbour; its hands were clenched; the lips blue and pouting; and the tongue thrust out a little way from between them. An inquest was deemed necessary, and a post-mortem ordered, which I accordingly made on the following day.

The child was well nourished; there were no marks of violence or flattening of the features. On opening the chest, I found the lungs and right side of the heart turgid with blood, but otherwise normal. The stomach contained a quantity of curdled milk. On opening the larynx, I found a small quantity of the same kind of curdled milk resting on the vocal cords, and lining the upper two or three tracheal rings, and thus completely blocking up the tube, which in calibre was not larger than an ordinary goose quill. On going down stairs again, I ascertained that on the previous day the child had frequently thrown up its milk. On this statement, and what the post-mortem examination revealed, I founded a theory as to the cause of death (given in evidence), viz., that some time after the child had taken the breast, whilst lying on its left

side, it had been seized with vomiting, and whilst in the act of retching, had turned its face into the pillow; thus the regress of the vomited matter being fairly prevented, the next inspiration had drawn some of the contents of the mouth into the larynx, and the child, either from position, or more probably from sheer want of strength, had been unable to clear the larynx, and thus death had ensued from mechanical obstruction.

This, I believe, to be the true explanation of the cause of this infant's death; and it has since struck me forcibly, might not many of the deaths of supposed "overlaid children" be accounted for by such an accident as the above?

Yours faithfully,

Guildford, Dec. 1861. F. D. Ross, M.R.C.S.

PARISIAN MEDICAL INTELLIGENCE.

(FROM OUR SPECIAL CORRESPONDENT.)

I ANNOUNCED to your readers some months ago that that ingenious electrician, Dr. Duchenne de Boulogne, had for some time been preparing, with the aid of photography, a work, partly addressed to physiologists and partly to artists, on Facial Expression. To the correct reproduction, by means of electrical stimulation, of the cutaneous wrinklings by which the various mental impressions are pourtrayed on the human face, and to their accurate representation by means of photography, this experimentalist has devoted many hours of patient labour. As Dr. Duchenne addressed his first communication on this subject to the Academy only on Tuesday last, I find that I have anticipated his announcement by about six months. As it was this gentleman's intention to send his very interesting album of portraits to the Great Exhibition, and as I have every reason to believe that he will do so, your readers will have an opportunity of judging for themselves as to the correctness of his views on the "Orthography of Physiognomical Language."

The Ministers of Commerce and of Public Instruction have presented to the Emperor a report on the necessity which exists for a revision of the Pharmacopœia. It is probable that a committee will be selected from amongst the members of the Academy for this purpose, and that those medicines hitherto excluded from general use, but of which experience has taught the value, will be formally recognized; and that others already admitted, but now ascertained to be practically worthless, will be omitted.

The serial publication of M. Lefort's essay upon the comparative salubrity of the Paris and London hospitals, has been brought to a close; and as the circulation of the *Gazette des Hôpitaux*, in which the communication has appeared, is very extensive, a fair notion of the system at present existing in England will be spread throughout France. From what I see and hear in this capital, and from the admissions made on both sides the Channel, it is evident that a much more friendly disposition mutually to give and take, to teach and learn, exists between the two countries now than at any previous period in history. We are, in fact, on the eve of a medical *entente cordiale*, which may, like the new treaty of commerce, be made alike profitable to both countries. If the interchange of experience be made in the true spirit of science, without feeling of rivalry or jealousy, there can be little doubt but that a degree of perfection hitherto unknown in hospital organization may be attained by a fusion of the merits to be found in both.

One of the drawbacks hitherto unnoticed by the adversaries of depletion is mentioned in the Paris journals as illustrated by the following anecdote:—A physician of Hondelaincourt, in the department of the Meuse, was found dead on the high-road; he had been murdered by a succession of heavy blows, inflicted by a blunt instrument, on the head. Search was made for the assassin, and a labouring man, named Vincent, thirty-eight years of age, was arrested on suspicion. It subsequently transpired that Vincent had been ill, and had been treated in turn by two medical men, Dr. Guyot, the victim, being one, and Dr. Hanin, the other. Both had recommended copious bleeding, but neither had succeeded in curing his patient. Finding no relief from this mode of treatment, Vincent applied to a third practitioner, who informed him that his symptoms arose entirely from want of blood. This announcement so incensed the labourer, that he resolved upon lynching his former medical advisers as a punishment for malapraxis; and accordingly, having heard that Dr. Guyot was at a neighbouring village, he waylaid and slew him, offering as a most indubitable justification of his act the Scripture authority of "Whoso sheddeth man's blood, by man shall his blood be shed."

In several letters, I have referred to the conflicting testimony which prevails in France on the question of the respirability of pulverized liquids; M. Sales-Giron and his partizans maintaining that minutely subdivided fluids do pass through the glottis into the lungs, and an equally large and respectable body asserting the contrary: both bringing facts and experiments, the one being in direct opposition to the other. Who shall decide...? The question is decided already. A speculator in the Quartier Latin has opened an establishment, and sent round circulars, in which he offers to the confiding public any amount as well as any quality of pulverized liquid by inhalation for something more than a franc and a half each sitting. Perhaps some enterprising pedicure might turn an honest penny by hiring, at a low rate, the ground-floor of Eddystone lighthouse, and making consumptive patients inhale the spray of the sea during a stiff sou-wester, through a series of loop-holes bored for the purpose.

The *Revue Contemporaine*, under the heading of "La Question des Eaux de Paris," publishes an interesting article by Baron Ernouf, in which the various projects for supplying the capital with pure water are fully discussed. M. Bouchut, it will be remembered, during the summer made the most appalling revelations regarding the insect population of the fluid at present served out from the open reservoirs round Paris. The water of the tank in the Rue Racine is often covered with a yellowish-brown crust, composed of all possible varieties of minute animal and vegetable life. A most interesting crustacean individual of the genus Daphnia affects the reservoirs in the Quartier Popincourt, and a liberal supply of disinfecting material, in the shape of soot mellowed by an admixture of rotten leaves and departed caterpillars, rivals the celebrated emulsion of sewage so long distributed to, and so impatiently accepted by, the population of Montmartre. The municipality of Paris have a decided weakness for a supply from Champagne, and smile upon a proposal for diverting the waters of the Somme, Soude, and Dhuis from their beds to the capital by means of aqueducts. The plan is opposed, however, by the vinous province; and as its completion would entail the construction of some 120 miles of iron piping, or other channel, and an expenditure of two millions of pounds sterling, its advisability is generally questioned. Add to which, in case of an invasion, the province of Champagne being one of the most exposed points of the territory, an enemy might at once cut off the supply of water to the capital: no small consideration in a strategical point of view. Baron Ernouf's ultimate conclusions seem to coincide with the opinions expressed by most of the practical men who have been consulted on the matter,—namely, that large gravelly basins should be constructed near the Seine, above Paris, and that the intake pipes for their supply should be laid above that point where contamination by town sewage commences.

M. Coste, the pisciculturist (not mentioned in "Johnson's Dictionary"), embarked at Toulon last week in order to proceed on a tour round the Mediterranean coasts. His object is to ascertain the results of an experiment made two years ago relative to the artificial formation of oyster banks. The success of the so-called *Ostreoculture* at Bordeaux and Toulon has exceeded the most sanguine expectations of its originator; but meanwhile *natives* are quoted at a franc a dozen on the *carte* of the Café Anglais.

A Lille newspaper, the *Echo du Nord*, mentions another instance of the prostitution of science, and cautions the public against receiving certain forged notes of the Bank of France, which have been put in circulation in that part of the world. These notes are executed by photography, and so perfectly resemble the original as almost to defy detection. Several of them, which had passed into the hands of respectable tradesmen, have been refused by the banks of Paris.

The Academy of Sciences has received from M. Jourdan a description of two new fossil animals: one the Rhizoprion Bariensis, of which the head only has been found, appearing to belong to an extinct race of cetacea; the other, the Dinocyon Thenardi, of which the skeleton has been obtained, and which bears considerable resemblance to those of the canine race.

Amongst the novelties in the botanical world, I may mention the following, which possibly may be of use to agriculturists:—The *Journal de Fécamp* publishes a letter from M. St. Réquier,

a farmer of the neighbourhood, as to the possibility of preserving green fodder for a length of time. He digs a pit in a stiff clay soil, with slanting sides, so as to represent in form an inverted pyramid; he then cuts his hay, clover, or whatever description of crop he desires to preserve, and causes it to be tightly jammed into the hole and then covered over with soil again. In this way he has preserved fodder for upwards of two months, and states that in rainy years, when only bad hay can be obtained, the plan may be resorted to with considerable saving.

M. Lemaire, who has already appeared as an advocate of coal-tar, now advises its employment as a preservative against the potato blight. He incorporates for this purpose two parts of tar with 100 parts of dry and loose earth, and strews the mixture over ground which is to be planted, after which the soil is dug or ploughed in the usual way. In this manner the medicated earth is brought in contact with the seed potato, and the plant is inevitably preserved from blight, even whilst neighbouring tubers planted in ordinary earth, and unprotected by the coal-tar, are affected in the usual way.

Paris, Jan. 7, 1861.

Medical News.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the science and practice of medicine, and received certificates to practise, on the 2nd January, 1862:—

Evans, John Henry, Guy's Hospital.
Spanton, William Dunnett, Middlesex Hospital.

The following gentleman also on the same day passed his first examination:—

May, Lewis James, King's College.

UNIVERSITY OF ST. ANDREWS.—The following is a list of gentlemen on whom the degree of Doctor of Medicine was conferred in January, 1862:—

Ball, Tertius, Staff Assistant-Surgeon, Army.
Barker, Robert A., Calcutta.
Barras, James, Glasgow.
Brigstocke, Henry, Derby.
Brushfield, Thomas N., Chester.
Callon, William T., Liverpool.
Chambers, William, Banbridge, Co. Down.
Duchesne, Robert, London.
Ducket, Clark A., H.M.'s Ship *Geyser*.
Finch, Henry, Newnham-Croft, near Cambridge.
Goodday, Horatio, Witham, Essex.
Greenwood, Major, London.
Hatchett, Joseph, Ravenstone, Leicestershire.
Hayes, James C., Athea, Co. Limerick.
Ingle, Robert N., Welbourne, Derbyshire.
Lintzgy, William J. Von, Calcutta.
Marshall, Edmund H., Kelvedon, Essex.
Maund, Henry, Ashford, Kent.
Moore, George, Stoke-on-Trent.
Osborne, Henry, Islington.
Pearce, George, Bishopstrow, Wilts.
Preston, William J., Hong-Kong, China.
Slorach, Henry, Cork.
Tuite, Francis, Dublin.
Woodman, William B., Stonehouse, Gloucester.

UNIVERSAL EXHIBITION OF 1862.—The Imperial Commission has published another notice to the intended French exhibitors, informing them that all the plans of detail for cutlery and surgical instruments have been decided on, and that it will shortly do the same for all the other classes.

ACCIDENTAL POISONING.—Recently T. Chick, aged thirty-four, who resided in Horseleydown, being ill with a fever, poured some water into a teacup which his wife had placed on the table, containing arsenic to poison some rats, and drank it. Death was the result.

TESTIMONIAL.—On New-year's day an elegant silver waiter was presented to Robert G. Moger, Esq., F.R.C.S., of Highgate, with the following inscription:—"Presented to Robert G. Moger, Esq., by the poor of Highgate, as a token of gratitude for his kindness to them in sickness, and for his successful exertions in getting them plentifully supplied with water."

BENEFACTIONS TO HOSPITALS.—Madame Jenny Lind-Goldschmidt, on leaving Bristol recently, enclosed a cheque for £310 18*s.* 2*d.*, being the proceeds of a concert, to the Mayor; with the request that he would distribute it in equal moieties between the Bristol Royal Infirmary and the Bristol General Hospital.—Mr. Crawshay, of Montague-street, Russell-square, has presented a donation of £500 in aid of the funds of St. Mary's Hospital.—The late Henry Batten Pool, Esq., of Road, has bequeathed to the Bath Eye Infirmary £1000; to the Bath United Hospital, £1000.—The late Mr. Joseph Garnett, of Newcastle-upon-Tyne, has bequeathed legacies to the following charitable institutions of the town and district: the Infirmary, £500; the Dispensary, £250; the Eastern Free Dispensary, £250; the Eye Infirmary, £250; the Lying-in Hospital, £250; the Fever Hospital, £250; the Northern Institution for the Deaf and Dumb, £200; the Royal Victoria Asylum for the Blind, £200; Gateshead Dispensary, £250.

TESTIMONIAL TO THE LATE MAYOR OF LIVERPOOL.—On Tuesday, a meeting of the Committee of the Liverpool Northern Hospital was held in the Mayor's parlour, the Deputy Mayor presiding, the object of the meeting being to present to Mr. S. R. Graves, late Mayor, a testimonial acknowledging his services in getting the hospital out of debt. Mr. William Brown, president of the committee of the institution, presented the testimonial, which was an address to Mr. Graves. It expressed the high sense which the committee entertained of Mr. Graves's services in assisting to liquidate the heavy debt on the hospital, and their appreciation of his efforts generally in aiding the cause of charity during the time he so honourably filled the civic chair. Mr. Graves, in a short address, acknowledged the compliment paid him, and also the assistance he had received from all classes of the community in prosecuting his efforts to promote the object which they had all so much at heart. The address, beautifully engrossed on vellum, was enclosed in an elaborately mounted silver casket, supplied by Mr. Mayer, silversmith, Lord-street.

SUICIDES IN FRANCE.—The average number of suicides each year in France, according to the *Annuaire Encyclopédique*, is 3899, of whom only 842 are females. It is in April, May, June, and July, that they are most frequent; and the age of the greatest number of persons committing them is from forty to sixty. Of the total, 2833 are accomplished by strangulation or drowning, 271 by suffocation with the fumes of charcoal, 395 by fire-arms, 153 by sharp instruments, 110 by leaping from high places, 98 by poison, and the rest by different means.

ENCEPHALOID FUNGUS OF THE DURA MATER.—M. Morel-Lavallée showed, at a late meeting of the Surgical Society of Paris, the carotid artery of a patient under his care. The vessel had been tied on account of a small pulsating tumour of the vertex, presenting a bruit de soufflet, which latter, with the pulsations, could be made to disappear by compression of the left carotid. Several attacks of hæmorrhage occurred before and after the operation, and the patient died of pyæmia. The usual conical clots were plugging the artery above and below the ligature, the lower one completely, the upper incompletely, as shown by injecting water into both ends of the vessel. It was by the side of the non-completely adherent upper clot that the blood had oozed. The pulsations, as the tumour was found to be an encephaloid fungus, were entirely dependent on an interlacement of vessels within and on the surface of the tumour. The patient had no knowledge of the existence of the complaint until a sack of powdered sugar fell on his head. We are told that he applied for relief at the hospital two months after this accident; but we are left in ignorance respecting two circumstances of some importance in the case. The shape and approximate weight of the bag are not mentioned, and it is stated that it fell upon the man's head from a height of about three inches (?)—ten centimètres.

DR. WEBSTER ON IMBECILITY.—There are various degrees of aberration of intellect recognised by lawyers in North Britain. These may be divided into two classes. The first comprehends every person who is, in judicial language "*fatuous*," and naturally an idiot, or furious mad, and a lunatic; or whose external senses are so imperfectly organized, as to render the party implicated totally unfit to undertake and superintend the independent management of him or herself, or their affairs. The other division includes those persons who, although not so devoid of reason as to be absolutely incapable of acting for themselves in the minor duties of life, are yet, from imbecility or weakness of judgment, considered by the law fit subjects for a limited degree of restraint in matters of importance. The remedy in the former case, is to place the fatuous or furious person under permanent and unlimited "curatory." The proceedings in the latter example being "interdiction," as it is denominated; by which, lavish and facile individuals are disabled from signing any deed to their prejudice, without the previous consent of their appointed interdictors. Interdiction here adverted to becomes truly a

kind of *mezzo termine*, as it might almost be called. Being, in fact, something like that peculiar issue designated in the criminal law of Scotland, a "non proven verdict." Upon the above legal proceeding, prevalent north of the Tweed, in reference to imbecile persons, one or two general observations seem advisable, with a view to induce subsequent discussion by legists and psychological physicians. This system constitutes, according to Scottish legal authorities, a species of restraint provided for those who, from weakness, facility, or profusion, are liable to imposition. It is directed at the option of the Judge, or Lord Ordinary at Edinburgh, on proper evidence proving the facility of the person arraigned: or is voluntarily imposed by the party applying for such protection. Hence the distinction into voluntary, and judicial interdiction. A sentence of judicial interdiction is pronounced, either in an action at the instance of the prodigal's heir, or his next of kin: or "*ex proprio motu*" of the judge, during a suit in court. This latter kind can only be removed by the authority of the court. Voluntary interdiction, again, is the act of a party applying; but after bond has been once executed, individuals so interdicted cannot withdraw it by their own hand.

THE POSTERIOR DIVISIONS OF THE SPINAL NERVES.—A case of "progressive muscular ataxy" was lately brought before the Medical Society of the Hospitals of Paris by M. Bourdon. The name of progressive ataxy has been given by M. Duchenne (de Boulogne), to a peculiar defect of co-ordination and equilibration in muscular movements. In this case, these symptoms were present, with paralysis of the third pair of nerves. The patient had led a dissolute and intemperate life, and had principally drunk large quantities of alcoholic liquors. On the autopsy, made with the aid of microscopic examinations, the posterior and not the anterior divisions of the spinal nerves were found affected. M. Trousseau, who took part in the discussion which followed the reading of the case, thought that Sir Charles Bell's views were not affected by this case, and that *alcoholism* might account for the lesions which were discovered. He did not, however, absolutely deny the possibility of this unusual state of things, but thought that other autopsies, likewise conducted with the aid of the microscope, should confirm or disprove the conclusions which might be drawn from the case before the Society. M. Bourdon observed, very justly, that co-ordination alone was wanting, whilst muscular action was complete in the patient; hence it would appear that the anterior divisions of the spinal nerves have nothing to do with co-ordination. He considered it probable that co-ordination was the result of a perfect correspondence between the posterior roots and the grey substance.

HEALTH OF LONDON DURING THE WEEK ENDING SATURDAY, JANUARY 4TH.—In the first week of the year the deaths registered in London rose to 1367. The average number in the first week of ten previous years (1852-61), corrected for increase of population, is 1425. The rate of mortality that prevailed last week, therefore, was not so high as the average. If it had been so high, each day would have witnessed eight deaths more than the number that actually occurred. Next to scarlatina which is returned in 77 cases, and which is not now so fatal as it was in November, whooping-cough is conspicuous in the list of zymotic diseases. It rose last week to 73, of which deaths 5 occurred in the north-west sub-district of Chelsea, 4 in the first sub-district of Kennington. Of the five recorded by the Registrar of Chelsea north-west, all except one occurred in one family, that of a journeyman bricklayer, who lives at 16, Wellesley-grove. The subjects of so great a mortality were children, the youngest aged 5 months, the oldest 4 years. Typhus also exhibited an increase; it was fatal in 58 cases, 30 of which were registered as "typhoid fever," and among these is the death of a boy, 13 months old, at 4, Cottage-court, Holborn, from "typhoid fever caused by bad drainage." There were 158 deaths from bronchitis, 67 from pneumonia. Both diseases, but especially the latter, are below the average as regards their mortality. A pensioner, aged 42 years, who had been a soldier, died in the workhouse, Holborn, in consequence of exhaustion and exposure. The wife of a shoemaker, aged 30 years, died in the workhouse, Borough-road, from "privation."

The births were—Boys, 1104; girls, 1069. Total, 2173.

QUARTERLY RETURN OF BIRTHS AND DEATHS IN LONDON.—In the thirteen weeks that ended December 28th, the number of deaths in London was 15,866. This does not much exceed the number returned for the corresponding quarter of the previous year; and it is not high relatively to ordinary autumnal results. In the concluding quarter of 1858, the deaths rose to 17,688. The weather was generally mild last quarter, the mean temperature of the air having been as high as 46·4°. In the same quarter of 1857, the mean temperature rose to 47·9°; in that of 1860, it fell to 42·8°. As the usual result of atmospheric warmth, the mortality of pulmonary diseases was very low; in the autumns of 1858-60, the deaths from this class of complaints were respectively 4075, 3070, and 3189; in last autumn they declined to 2935, a decrease which is the more remarkable as it occurred in an increased population. Bronchitis declined from 2240 in 1859, to 1553 in 1861. Pneumonia decreased from 1433 in 1858, to 979 in 1861. Whooping-cough does not show a similar tendency to mitigation under the influence of a mild season, for 690 deaths were recorded as caused by it, a number which is at least equal to the average. Croup was also fatal; it was returned in 252 cases, whereas in the colder quarter of 1859, it was fatal only in 81. Phthisis is not included in the pulmonary, but in the tubercular class of diseases. The deaths from it were 1840 in the quarter, and exhibited but little fluctuation on previous autumnal numbers. The deaths referred to zymotic diseases were 4012, against 3392 in the same quarter of 1860. By far the most destructive of complaints of that character was scarlatina, which carried off 1145 persons, besides which 231 died of diphtheria. There were 46 fatal cases of small-pox, 171 of measles, 624 of typhus. Scarlatina was prevalent, chiefly in the following parts:—Fulham, Chelsea (with the exception of the north-eastern sub-district), the sub-districts of Hanover-square, May-fair, and Belgrave; Gray's-inn-lane, Somers-town, Camden-town, Islington, St. George, Bloomsbury, St. Clement Danes, St. George the Martyr, Holborn, Clerkenwell, Whitecross-street, part of Bethnal-green, the sub-districts of St. Mary and St. Paul, in St. George-in-the-East, those of Christchurch and St. Saviour, Southwark, Bermondsey, the sub-districts of Borough-road and London-road, those of the Waterloo-road, and the first sub-district of Lambeth Church, Norwood, St. Paul, Deptford, with parts of Greenwich and Woolwich. There were 15 deaths from measles and 10 from diphtheria in the sub-district of Christchurch, Marylebone. Typhus was fatal in the East districts, where it carried off 183 persons, many of these in Mile-end, Bow, Poplar, Bethnal-green, and Hoxton.

MEDICAL VACANCIES.

THE office of Superintendent of Post-mortem Examinations at Middlesex Hospital has become vacant by the resignation of Dr. Murchison.

There is a vacancy for an Honorary Surgeon to the Sunderland Infirmary by the death of Mr. Frederick Henry Johnson.

An Honorary Surgeon is required for the District of St. John's, Redland, of the Clifton Dispensary, by the resignation of Mr. G. M. Stansfield.

A vacancy has occurred for a Medical Officer for the Warwick District of the Warwick Union.

There will shortly be a vacancy for a Medical Officer for the Ledbury and Yarkhill District of the Ledbury Union.

A Resident Medical Officer is required for the Dover Hospital.

MEDICAL APPOINTMENTS.

DR. W. HUGHES WILLSHIRE, Senior Assistant-Physician to the Charing-cross Hospital, has been elected to the office of Physician to the Hospital, made vacant by the resignation of Dr. Golding. Dr. Golding has been elected Consulting Physician, in the room of the late Dr. Shearman.

The Queen has been pleased to appoint Dr. Wm. Jenner, now Physician Extraordinary to her Majesty, to be one of the Physicians in Ordinary to her Majesty.

Mr. John B. Mason has been appointed Surgeon to the Ross Union, also to the Ross Dispensary, vice Mr. Thomson, resigned.

Mr. George Blacker Morgan, late House-Surgeon to the Sunderland Infirmary, has been appointed Honorary Surgeon to the institution, in the room of Mr. F. H. Johnson, deceased.

Dr. William Samways Oke has been appointed Consulting Physician to the Royal South Hants Infirmary, Southampton; and Dr. William Bullar has been elected Physician in the room of Dr. Oke.

Mr. John Tudor has been elected Surgeon to the Dorset County Hospital, Dorchester, in the room of Mr. William Denning Tapp, resigned; and the latter has been elected Consulting Surgeon, in the room of the late Mr. Christopher Arden.

Mr. William Carte, Surgeon to the Royal Hospital, Kilmainham, Dublin, has been appointed Medical Attendant to the Civil Staff of the Garrison of Dublin.

Mr. John Good has succeeded the late Mr. Christopher Arden as Surgeon to the County Gaol, Dorchester.

Dr. Guy has succeeded Mr. Wm. Hankey Day as Medical Officer for District No. 3 of the Norwich Corporation of Guardians.

Mr. Rowland Dalton has been appointed Public Vaccinator for the Town of Bury St. Edmunds.

MILITARY AND NAVAL MEDICAL INTELLIGENCE.

3rd Regiment of Foot: Assist.-Surg. Henry M'Niece has been dismissed the Service by sentence of a general Court Martial.

16th Foot: Surg. James Richard Ffennell, having completed a period of twenty years' full-pay service, to be Surg.-Major under the provisions of the Royal Warrant of October 1st, 1858.

74th Foot: Surg. James Macbeth, M.D., having completed a period of twenty years' full-pay service, to be Surg.-Major under the provisions of the Royal Warrant of October 1st, 1858.

93rd Foot: Staff Assist.-Surg. George Bouchier, to be Assist.-Surg., vice Menzies, appointed to the Staff.

Rifle Brigade: Assist.-Surg. Nathaniel Norris, from the 85th Foot, to be Assist.-Surg., vice David Ritchie Pearson, M.D., who resigns.

Assist.-Surg. Robert Menzies, from the 93rd Foot, to be Staff Assist.-Surg., vice Bouchier, appointed to the 93rd Foot.

Staff Assist.-Surg. Seth Sam, on appointment to the Staff, should have succeeded Assist.-Surg. Henry James Rogers as superseded, and not as placed on half-pay, as stated in the *Gazette* of December 6th, 1861.

Brevet.—Inspector-General of Hospitals Donald Butter, retired, Bengal Medical Department, should have the letters M.D. inserted after his name in the *Gazette* of the 3rd ultimo.

Commissions signed by Lords-Lieutenant.—8th Gloucestershire Rifle Volunteer Corps: Samuel Hitch, M.D., to be Hon. Assist.-Surg.

West Middlesex Rifle Volunteer Corps: The Queen has been pleased to accept the resignation of the Commission held in this Corps by Surg. Henry Thompson.

15th Hampshire Volunteer Corps: Henry James Shirley, Gent., to be Hon. Assist.-Surg.

25th Company of Cheshire Rifle Volunteers: Arthur Ransome, Gent., to be Hon. Assist.-Surg.

Bengal Army.—Assist.-Surg. T. Atchison, to be Surg., vice Gibbon, retired. Surgs. J. Jowett and A. Grant, to be Surgs.-Major, having completed twenty years' service in India. Surg.-Major M. M'Neill Rind (holding temporary rank of Deputy Inspector-General) to be Deputy Inspector-General of Hospitals, vice Gibbon, retired. Surg.-Major J. A. Dunbar, M.D., to be Deputy Inspector-General of Hospitals with temporary rank, vice Rind. Assist.-Surg. H. Stewart, to be Surg., vice Tweddell, retired.

Madras Army.—Surg.-Major J. Forbes, M.D., to be Deputy Inspector-General of Hospitals, to complete the Establishment. Assist.-Surgs. G. Mackay, M.D., to be Surg., vice Eyre, retired; A. Hunter, M.D., to be Surg., vice Pearse, retired. Surg. J. K. Ogilvie, M.D., to be Surg.-Major, having completed twenty years' service in India. Assist.-Surg. H. Nott, to be Surg., vice Gingall retired. Surg. M. Kane, M.A., M.D., vice Goodall, retired.

Bombay Army.—Surgs. G. F. Forbes, W. L. Cameron, S. M. Pelly, and F. Manisty, to be Surgs.-Major, having completed twenty years' service in India. Assist.-Surg. D. Wyllie, M.D., to be Surg., vice Waller, retired. Surg.-Major D. Ritchie, M.D., to be Deputy Inspector-General of Hospitals, with temporary rank. Assist.-Surg. H. Pitman, to be Surg., vice Waller, retired. Assist.-Surg. J. F. Smith, M.D., to be Surg., vice Burn, retired. Surg. D. Wyllie, vice Winchester, retired.

Births, Marriages, and Deaths.

BIRTHS.

On Nov. 23rd, at Ghazeepore, the wife of Dr. Alexander Garden, Civil Surgeon, of a daughter.

On the 20th ult., at Clarendon-gardens, Maida-hill, the wife of Dr. Peake, 18th Royal Irish, of a son.

On the 26th ult., at Pathhead Ford, Dalkeith, the wife of Duncan Macgregor, Esq., F.R.C.S., of a daughter.

On the 29th ult., at Tipperary, the wife of T. B. Morrissey, M.D., of a daughter.

On the 29th ult., at Woodbine Cottage, Cappawhite, Ireland, the wife of Wm. J. Power, M.D., of a son.

On the 29th ult., at Ainslie-place, Edinburgh, the wife of Jas. Spence, Esq., F.R.C.S., of a son.

On the 30th ult., at Barossa-place, Perth, the wife of J. P. Bramwell, M.D., of a daughter.

On the 1st inst., at Hovingham, Yorkshire, the wife of Richard Gillard, Esq., M.R.C.S., of a daughter.

On the 7th inst., at Pine House, Camberwell-green, the wife of John Swan Flower, Esq., M.R.C.S., of a son.

At St. James's-road, Liverpool, the wife of Thos. Skinner, M.D., of a son.

MARRIAGES.

On the 24th ult., at St. Mark's, Norwich, William R. Sanders, M.D., to Georgiana Bridget, daughter of the late George Woodrow, Esq., of Norwich.

On the 28th ult., at St. Bride's Church, Liverpool, A. Fleming, M.D., of Temple-row, Birmingham, to Mary, second daughter of F. Maxwell, Esq., of Liverpool, and Drum-park, Stewartry of Kirkcudbright.

On the 2nd inst., at Hardenhuish Church, John Goodwin Welch, M.D., to Mary Anne Emma, eldest daughter of the Rev. B. Winthrop, of Hardenhuish House, and Rector of Wolverton, Warwickshire.

On the 4th inst., at Brussels, Ernest A. Macy, Esq., Royal Marines, Light Infantry, youngest son of Henry J. Macy, Esq., M.R.C.S., of West Town, Somerset, to Margaret, second daughter of R. Simpson, Esq., late of Clifton, and granddaughter of the late Major Robert Clarke, Royal Marines.

DEATHS.

In July last, at Fiji, Sandwich Isles, John Hutchinson, M.D., F.R.C.S., late of Milton-street, Dorset-square, formerly Physician at the Consumption Hospital, Brompton, aged 51.

On the 25th ult., at Falmouth, Cornwall, Joseph Fox, Esq., M.R.C.S., aged 69.

On the 26th ult., at the Dispensary, Doncaster, Lydia, wife of Robert Henry White, Esq., L.S.A., House Surgeon, aged 29.

On the 28th ult., at Plymstock, South Devon, Elizabeth Darling, eldest daughter of Henry Jas. Wilson, Esq., F.R.C.S.I., aged 5 years and 6 months.

On the 28th ult., at Windsor-place, Plymouth, John Cocks, M.D., aged 75.

On the 31st ult., at Northumberland House, Stoke Newington, Arthur, aged 3, and Ida, aged 1 year and 11 months, the eldest son and youngest daughter of George Birkett, M.D.

On the 31st ult., at Windsor-street, Edinburgh, Andrew Fyfe, M.D., Professor of Chemistry in the University of Aberdeen.

On the 3rd inst., at Tywardreath, Cornwall, Anna Blanche, youngest daughter of W. W. Tayler, L.R.C.P., aged 18.

Medical Diary of the Week.

MONDAY, JAN. 13

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

METROPOLITAN FREE HOSPITAL.—The following Operation will be performed at 2 P.M.:—By Mr. G. B. Childs: Amputation at the Ankle-joint.

ROYAL GEOGRAPHICAL SOCIETY.—Dr. F. J. Mount, "Narrative of an Expedition to the Andaman Islands in 1857." — Mr. A. E. Wallace "On the Trade of the Eastern Archipelago with New Guinea and its Islands."

MEDICAL SOCIETY OF LONDON.—7½ P.M. Special General Meeting.—8½ P.M. Dr. S. Fenwick, "On Desquamative Gastritis in Scarlatina."

TUESDAY, JAN. 14

GUY'S HOSPITAL.—Operations, 1½ P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

ETHNOLOGICAL SOCIETY. — 8 P.M. Prof. Owen, "On the Osteology and Dentition of the Andaman Islanders."

ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON. — 8½ P.M. Dr. F. G. Reed, "On Affections of the Cæcum." — Dr. Aldis, "On the Poisonous Effects of Coal Gas."

WEDNESDAY, JAN. 15

MIDDLESEX HOSPITAL.—Operations, 1 P.M.

ST. MARY'S HOSPITAL.—Operations, 1 P.M.

UNIVERSITY COLLEGE HOSPITAL. — Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL. — Operations, 2 P.M.

METROPOLITAN ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.—4 P.M.

HUNTERIAN SOCIETY.—7 P.M. Meeting of Council. 8 P.M. Mr. Hutchinson will read some cases of interest.

THURSDAY, JAN. 16

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL. — Operations, 1 P.M.

LONDON HOSPITAL.—Operations, 1½ P.M.

GREAT NORTHERN HOSPITAL, KING'S CROSS.—Operations, 2 P.M.

LONDON SURGICAL HOME.—Operations, 2 P.M.

CHEMICAL SOCIETY.—8 P.M. Dr. Bence Jones, "On the Simultaneous Variations of Uric and Hippuric Acids in Healthy Urine."—Mr. G. F. Rodwell, "On the Solubility of Sulphate of Lead in Hydrochloric and Nitric Acids."—Dr. H. Müller, "On a New Mode of effecting Chlorine Substitutions."

HARVEIAN SOCIETY. — 8 P.M. Mr. Wm. Adams, "On the Treatment of Lateral Curvatures of the Spine."

FRIDAY, JAN. 17

WESTMINSTER OPHTHALMIC HOSPITAL. — Operations, 1½ P.M.

ROYAL INSTITUTION.—3 P.M. Prof. Tyndall, "On the Transmission of Heat through Gases."

WESTERN MEDICAL AND SURGICAL SOCIETY OF LONDON.—8 P.M. Mr. Hunter, "On Tumour of the Jaw."—Dr. Baines, "On a Case of Disease of the Pancreas."

SATURDAY, JAN. 18

ST. THOMAS'S HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.

KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

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THE LANCET INQUIRY
ON THE
INFLUENCE OF RAILWAY TRAVELLING UPON PUBLIC HEALTH.

THE mass of information accumulated for the discussion of this subject has given so considerable a development to the inquiry, that we are under the necessity of deferring to our next impression the consideration of the influence on Circulation and Respiration, and the important details relating to the Health of Railway Officials and of the Travelling Post-office Clerks.

THE ANALYTICAL SANITARY COMMISSION.

RECORDS OF THE RESULTS OF
MICROSCOPICAL AND CHEMICAL ANALYSES
OF THE
SOLIDS AND FLUIDS
CONSUMED BY ALL CLASSES OF THE PUBLIC.

The next Report will be on

BREAD,

AND ITS ADULTERATIONS,

Which will be published early in February.

To Correspondents.

THE GREAT EXHIBITION.

A Country Physician.—We believe we may assure our correspondent that the College of Physicians will show every becoming courtesy to those of their brethren, British or foreign, who may be expected to visit the metropolis at the time of the Great Exhibition. We understand that the College have already determined to hold *two conversaziones* at the most convenient periods. It is presumed that the College of Surgeons will also do their best to welcome the scientific visitors.

Chirurgus.—The possibility of removing the entire parotid gland with safety to the patient has been denied by more than one surgeon of authority. But, nevertheless, it can and has been removed several times entire, and with success. Two American surgeons—viz., Professors Brainard and M'Dowell, have been the more successful operators. We may refer our correspondent to the 13th volume of the "Transactions of the American Medical Association," where may be found the method of procedure adopted by these surgeons.

Mr. W. Williams.—The information may be obtained from any respectable medical practitioner.

Phthisis.—At Bastick's, Brook-street; or Bullock's, Hanover-street, Hanover-square.

T. B.—We do not know; but we have seen it stated that Virchow is about to enter the Prussian Chamber of Deputies, in which, as his oratorical powers are considerable, it is believed he will obtain repute.

Vet.—It is out of our province. Search the *Edinburgh Veterinary Review*. We may add, however, that the *Wayne* (N. Y.) *Press* states that a disease termed "hog cholera" has been raging amongst the porkers at the distilleries in Clyde. One proprietor lost 1200 hogs a short time since, the animals dying at the rate of from 60 to 100 per day.

Dr. A. P. Stewart informs us that he intends to bring the question between himself and Mr. Baker Brown before the Council of the British Medical Association. We shall therefore defer for the present any observations on the correspondence forwarded to us by Mr. Brown.

Parisian.—The information respecting the London and Parisian hospitals appeared originally in THE LANCET in a letter from our Paris correspondent.

Nemo.—The new-comer should call.

D. G. H.—I as been decided that the removal must take place.

A NEW REMEDY.

A Dispensing Chemist has recently had presented to him a prescription for an embrocation, written by a London physician, in which the principal ingredient is: "Extract. Bon Constrictor., gr. iv.," to be dissolved in glycerine and water. This singular compound is directed to be rubbed into the chest three times a day as a remedy for phthisis. Our correspondent inquires where he can procure the precious evacuation. We cannot inform him, as we presume the Zoological Society have already contracted to supply all their produce to the particular house which undertakes to "make up" this notable prescription.

Medico-Chirurgicus.—The letter has been received.

Medicus, (Durham.)—We cannot give an opinion on a case stated to us on *ex-parte* information.

Court Journal.—We imagine from its tone that the letter was not written by an "eminent physician" at all. If it does really emanate from a medical practitioner, it is to be regretted that he displays so much ignorance and ill-breeding. It is "an ill bird that fouls its own nest."

Tyro.—The work of Dr. Guy or that of Dr. Taylor.

M. D.—The state of the profession in England is altogether unsettled; but the events of each succeeding year clearly point to the establishment of the one-faculty system. As to the question of titles, it has been settled in a manner that was never contemplated by the exclusive corporations. We differ from our correspondent in his opinion respecting the establishment of a pure apothecary class. The time when this was required has long since passed. It is not so easy now as formerly to define the grades in the profession. "M.D.," in writing to us on the subject of the licence of the College of Physicians, says:—

"I am quite sure that the reason more students do not take the licence of the College of Physicians, in preference to that of Apothecaries' Hall, is because no encouragement is thrown out to them; nothing is done to make it popular. It is true the superiority of the former over the latter ought to be sufficient to entice students to take the one that will carry most weight with it. If something were done by the College to make it more popular, I am sure students would willingly take it; but while only so few take it in preference to the Hall, so long will it remain unpopular. I would suggest for the consideration of the College that those students who commenced hospital practice on or before October, 1860, be exempt from passing the preliminary examination at the College; but that they shall not be allowed to present themselves for their second or final examination without producing, together with their schedule properly filled up, the diploma of the College of Surgeons of England. This would not only to a certain extent amalgamate the two Colleges, but would be the means of inducing a great number of students to take the most respectable licence in Medicine that can be obtained."

A Seeker would be obliged if Mr. Clemes, a surgeon, who practised in London about eight years ago, would forward his address to THE LANCET Office.

Student.—The number of students in the Prussian Universities for the last winter session was 625—viz., 721 Prussians, and 104 foreigners.

Mr. J. J. Williams is thanked for his communication.

A Reader.—Thanks. The question shall be submitted to the proper person.

A Patient.—An opinion could not be given unless *all* the particulars were forwarded.

Mr. Goodchild.—The reported improvement is very satisfactory. We regret to hear, however, that so many as thirty to forty of the children are still affected. Probably by continuing the present judicious course the epidemic may be completely extinguished.

M. S.—We cannot recommend a consultation with the "doctor."

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. Solly; Mr. Henry Thompson; Mr. Savory; Mr. John Goodchild, Ealing; Dr. Knox; Dr. Mackenzie, London Hospital; Dr. J. S. Down, Red Hill, Surrey; Dr. Devenish; Mr. Wilson; Sir James Clark; Mr. W. Harris, Newport, (with enclosure;) Mr. Walker, Alderton; Dr. Barlow, Ardwick, (with enclosure;) Dr. Keown, Belfast, (with enclosure;) Dr. Baines; Mr. H. F. Reynolds, Hull, (with enclosure;) Mr. S. Ingle, Rugeley, (with enclosure;) Mr. Evans, Blaenant, (with enclosure;) Dr. Whatmough, Pocklington, (with enclosure;) Mr. J. W. Andrews, (with enclosure;) Mr. E. Hamilton, Eliand; Mr. J. M'Evoy, Dublin; Dr. J. Hunter, Manchester; Mr. Akers, (with enclosure;) Mr. W. Taylor; Mr. W. Owen, Machynlleth; Mr. W. Best, Ashford, (with enclosure;) Mr. Winnard, Wigan, (with enclosure;) Mr. W. Williams; Mr. J. Hughes, Ledbury; Dr. Cocks, Dundee; Mr. R. S. Hanbury, Morfield, (with enclosure;) Mr. W. Henley; Dr. Wm. Hamilton, Tarbert; Mr. W. H. Barber; Mr. N. P. Betts, Satterton, (with enclosure;) Mr. A. Meeres; Mr. R. Roden, Smalleynest; Mr. F. J. Orford, Wellesbourne; Mr. A. J. Hepworth; Mr. Strutt, Tutbury, (with enclosure;) Mr. Byrne, Whickham; Dr. Ryling, (with enclosure;) Mr. Hollings, Wakefield, (with enclosure;) Mr. Dullus, West Bromwich; Mr. Blease, Altrincham; Mr. E. Watts, Liverpool, (with enclosure;) Mr. W. Young, Parkhead, (with enclosure;) Mr. G. White, Didmarton, (with enclosure;) Dr. Bell, St. Andrews, (with enclosure;) Dr. A. Campbell, Oban, (with enclosure;) Mr. J. B. Wilson, Whitehaven; Mr. J. J. Mumford, Crick; Mr. Cash, Matlock, (with enclosure;) Mr. H. J. Macy, West Town; Dr. Sisson; Mr. M. Jones, (with enclosure;) Mr. H. Ashton, Walton-le-dale, (with enclosure;) Mr. J. Caldwell, Dreghorn, (with enclosure;) Dr. Wood, Ackworth; Mr. B. Buller, (with enclosure;) Mr. Sankey, Wingham, (with enclosure;) Mr. T. Chalmers; Mr. Puryon, Benenden; Mr. Carson, Coleraine; Mr. G. B. Morgan, Sunderland; Dr. Seward, Caherconlish, (with enclosure;) Mr. T. L. Davies, Highbridge, (with enclosure;) Dr. Powell; Mr. Rawlinson; Dr. Ellis; Metropolitan Free Hospital; M. S.; D. G. H.; M.D.; Ethnological Society; Medico-Chirurgicus; Royal Institution; Medicus; A Seeker; Nemo; W. M. E., Abbeyfield, (with enclosure;) A. D. S.; G. H.; &c. &c.

THE NEW REMEDY.—(Vide The Lancet, Nov. 30th, 1861.)

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CAUTION.—J. T. DAVENPORT *received* from Dr. J. COLLIS BROWNE, M.R.C.S.L., Ex-Army Medical Staff, *the sole discoverer and inventor, his* RECIPE *for this invaluable preparation*, which *has never been published or made known;* hence there can be no other maker, and anything compounded as Chlorodyne besides is a spurious imitation and deception.

TESTIMONIALS.

"I have now for fifteen months used Dr. J. COLLIS BROWNE'S CHLORODYNE, and am fully persuaded of its value as a remedial agent. In FEVER, to allay restlessness and severe headache, and to procure sleep, its effects have been most satisfactory. It appears to me to be indicated in all cases where there is depression of NERVOUS POWER. In fact, in the hands of a judicious surgeon who has used it a few times, it is capable of being most extensively and usefully prescribed. In a case of obstinate and severe VOMITING, arising from SARCINÆ in the Stomach, associated with an Amyloid Tumour in the Liver, which *had resisted treatment* for many months, I used Chlorodyne most successfully. *The first dose stopped the Vomiting.* Small doses were continued, at intervals of a few hours, for six weeks. The vomiting having entirely ceased, it was then discontinued, and although six months have elapsed there has been no return of the symptoms. The Tumour has somewhat diminished in size, and gives no uneasiness. I have also given it in some cases of Phthisis, with marked relief, especially in the early stages. I spontaneously offer my opinion as to its merits, for I think it has only to be tested and it will be used by all Medical Men. "HENRY J. STORMONT, Esq., Surgeon, Cheshunt."

"Having ordered from our Druggists 'CHLORODYNE,' I was not only DISAPPOINTED IN ITS EFFECTS, but annoyed when I received a SPURIOUS Compound. I have been in the habit of using your CHLORODYNE with great advantage to my patients and satisfaction to myself. I have just discharged, well, out of this Hospital, a woman who had pyæmia after hour-glass contraction of the uterus; *I feel quite certain* that her recovery was caused by taking a dose of CHLORODYNE three times daily, or *when* the rigors were severe. I have had several cases where inflammation set in after instrumental delivery or extraction of the placenta, and *never* had a *recovery* before when the cases were so severe as the case mentioned; but I did not know the value of your medicine. (Signed) "JAS. ATKIN, M.D., Medical Officer, Fever Hospital, Oldcastle, Co. Meath."

From Dr. JOHN C. BAKER, Littleham, Bideford, Devon.

"SIR,—I am induced, after many trials of CHLORODYNE, to send you the result of my experience. I have found it of the *greatest value* in colic, asthma, and other diseases of a spasmodic nature. It is without doubt the *most valuable and certain anodyne* we have. I have used it frequently with the greatest advantage in severe cases of Dysmenorrhœa and in Obstetric practice. I find it to allay the severity of 'after-pains' caused by irregular contractions of the uterus more certainly than any preparation contained in the 'Pharmacopœia.' I have little doubt when its properties are more generally known you will have a great demand for it."

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